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THE UNIVERSITY OF OKLAHOMA HEALTH SCIENCES CENTER

GRADUATE COLLEGE

NATURE AND PREVALENCE OF MENTORING SUPPORT

REPORTED BY AIR FORCE NURSES

A THESIS

SUBMITTED TO THE GRADUATE FACULY

In partial fulfillment of the requirements for the

degree of

MASTER OF SCIENCE

BY

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Oklahoma City, Oklahoma

2001

NATURE AND PREVALENCE OF MENTORING SUPPORT

REPORTED BY AIR FORCE NURSES

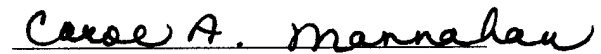APPROVED BY:

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ABSTRACT

The Air Force Mentoring Program may never achieve its potential success because mentoring received by Air Force members is mandated and the manner in which it is delivered, predetermined. This study's purposes were to learn: (1) what type of mentoring support Air Force nurses reported most frequently, and (2) differences in reported mentoring support between demographic groups of (a) gender, (b) ethnicity, (c) age, (d) rank, (e) level of education, and (f) number of duty assignments. A cross-sectional convenience cluster sampling design was utilized for this descriptive study. Four types of mentoring support: career mentoring, coaching, collegial social, and collegial task support, were measured using the Mentoring and Communication Support Scale. Participants (N = 467) were registered nurses with at least 12 months of active duty experience as an Air Force nurse. Overall, collegial task support (72%) and collegial social support (56%) were reported more frequently than career mentoring (43%) or coaching (33%). Participants' level of education and number of duty assignments produced significant statistical differences in reported perceived types of mentoring support. Masters-prepared participants (n = 177) perceived more mentoring support than participants (n = 286) with baccalaureate degrees. Participants (n = 272) assigned to less than 3 duty assignments perceived less mentoring than participants (n = 195) assigned to 4 or more duty assignments.

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Results of this study indicated that Air Force nurses with higher levels of education reported higher perceived career mentoring ($t = -4.86$, $p = .000$), coaching ($t = -3.096$, $p = .002$), and collegial task support ($t = -2.819$, $p = .005$). This result suggests that promoting educational opportunities may be an effective intervention for increasing mentoring; and consequently the positive outcomes associated with mentoring. Mutuality, self-direction, and a task-oriented approach are three attributes shared by contemporary mentoring and adult learning. These findings may well serve as the basis for mentoring programs in the Air Force as well as in non-military health care organizations. A schematic diagram for contemporary mentoring in the Air Force and health care organizations was developed as a result of this investigation and is presented for consideration and to encourage further research in mentoring.

CHAPTER I

INTRODUCTION

Air Force organizational structure and culture have not been compatible with traditional mentoring relationships. Chain of command, permanent change of station (PCS) moves, and training or deployment commitments are just three factors that have limited the opportunity to form this traditional type of relationship. Traditional mentoring relationships have been characterized as intense, prolonged, and mutually beneficial (Carey & Campbell, 1994; Levinson, Darrow, Klein, Levinson, & McKee, 1978; Vance & Olson, 1998; Yoder, 1990). These relations have involved a senior, more-experienced mentor and a junior, less-experienced protégé; mutual goals; and have often lead to successful outcomes for mentor and protégé (Dreher & Ash, 1990; Hunt & Michael, 1983; Kram, 1983).

Mentoring dates back to ancient Greece, when it was extolled by Homer's The Odyssey (1991). King Odysseus left his trusted friend Mentor to care for his son, Telemachus, while he went off to fight in the Trojan War. For more than ten years, Mentor served as guide, advisor, counselor, and protector to Telemachus (Homer, 1991). Literature revealed that modern-day mentors continue to display the characteristics of Mentor (Vance & Olsen, 1998; Wickman & Sjodin, 1997; Yoder, 1990). The universality of the mentoring concept has reflected the impact mentors

continue to make on success and development of protégés, regardless of profession or activity.

Air Force Nursing

In the 1990s, the Air Force Nurse Corps (AFNC) entered a period of transition. Strength of the American military was no longer measured in the number of soldiers or pieces of equipment, but in quality training and superior technology. This new definition of strength led to a reduction in the number of active duty military members (Department of the Air Force, 2000c). Labeled as *rightsizing*, this policy required Air Force nurses to adapt to an environment with fewer personnel and more mission requirements and responsibility. AFNC leaders shaped the future of Air Force Nursing by creating a mission of global nursing and precision care (Total Nursing Force, 2000b).

Meanwhile, Air Force nurses (AFNs) shouldered responsibilities beyond the nursing arena, such as officer development. Officership, the cornerstone of military life, was reinforced by emphasis on leadership, competence, and professionalism. Air Force Core Values (Integrity First, Service Before Self, Excellence in All We Do) were introduced and an extensive professional reading campaign was implemented to ensure every Air Force officer was familiar with the ideals and principles modeled by its earliest leaders and heroes (Department of the Air Force,

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1997). As AFNs assumed increased responsibility, the identities of Air Force officer and nurse merged into something more; that of professional officer.

All officers participated in a succession of professional military education courses designed to foster officer development (Department of the Air Force, 1994). AFNC recognized that coursework alone would not ensure career development and advised its nurses to "become active participants in a mentoring relationship" (Air Force Personnel Center, 2000c, p. 1).

Professional Development

Designated career milestones (see Table 1) have marked the path of every AFN, and promotions consequently follow a set pattern mandated by Congress. Although no career path looks exactly the same, most AFNs have followed a pattern of obtaining basic nursing skills, enhancing decision-making and leadership skills, and finally a series of progressively challenging leadership positions (Rhoton, 2000; Total Nursing Force, 2000a). As an example, a Captain with eight years of experience would be expected to have mastered basic nursing skills in a clinical area such as critical care, pediatrics, or medical-surgical nursing. Additionally, knowledge of war-time skills like triage, biological warfare conditions, and mass casualty scenarios, collectively known as medical readiness, would be expected. Other expected career milestones of a mid-level Captain have included completion of Squadron Officer School, pursuit of graduate education, and service in a

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management position. Consensus among Air Force nurses was that the most important factor in career advancement was a logical progression of duty titles and assignments that demonstrated increasing levels of responsibility (Rhoton, 2000; Total Nursing Force, 2000a). A condensed overview the Air Force nursing career path is provided in Table 1.

Darling (1985b) was among the first to introduce the concept of multiple mentors in nursing literature. Others (Belcher & Sibbald, 1998; Carey & Campbell, 1994; Vance & Olson, 1998; White, 1988) have described successful outcomes with one or two mentoring relationships. Minor mentors, individuals that provided guidance for a particular project or situation, offered combined benefits equal to those of traditional protégés (Darling, 1985b). This contemporary form of mentoring evolved from traditional models in response to the needs and preferences of today's workforce (Brandi, 2000; Kupperschmidt, 2000; Tulgan, 1999; Walsh & Borkowski, 1999).

Born between 1965 and 1981, members of Generation X have begun to dominate the workforce (Santos & Cox, 2000; Tulgan, 1999). Generation X employees have brought the new values for work and loyalty into the workplace. On the whole, these individuals were independent and self-directed, but wary of long-term commitment (Kupperschmidt, 1998; Santos & Cox, 2000; Tulgan, 1999). These employees were more accepting of diversity, viewed change as a necessary

part of progress, and took risks more freely (Kupperschmidt, 1998, 2000).

Continued learning and advanced training were highly valued by these employees,

and technical expertise was common. Loyalty was first given to self-interests and

then to the organization (Kupperschmidt, 2000; Santos & Cox, 2000; Tulgan, 1999).

Table 1
Air Force Professional Development Guidelines

Rank	Phase Points	Career Development Activities	Duty Titles
Second Lieutenant	Upon Commission	Jr Officer Develop. Course Nsg Svc Fundamentals	Staff Nurse
First Lieutenant	2 years	Adv Cardiac Life Support Combat Casualty Care Course (C-4) Flight School	Staff Nurse Preceptor
Captain	4 years	Sqadron Officer School Graduate Education Nsg Svc Management	Assistant Manager Flight Nurse
Major	9 - 11 years	Air Command & Staff College Career Broadening Assignment	Nurse Manager Nursing Supervisor
Lieutenant Colonel	15 - 17 years	Senior Service School Commanders School	Nurse Executive Squadron Commander
Colonel	21 - 23 years	Air War College	Sr Nurse Executive Group Commander

Note. Professional development guidelines are approved by Headquarters, United States Air Force and maintained by the Air Force Personnel Center (2000a).

<u>Values of an Emerging Workforce</u>

Efforts to understand value differences between generations of the workforce were documented in the literature, but until recently, the needs, expectations, and preferences of Generation X employees were not explored (Business Wire, 1999; Kupperschmidt, 1998, 2000; Santos & Cox, 2000). A study of 152 Generation X employees revealed that they anticipated working for five different companies before retirement (Business Wire, 1999). Of interest was that 75% of participants valued mentoring because it was linked to career success, and 79% preferred to have multiple mentors (Business Wire, 1999).

AFNs practiced in a culture requiring temporary duty commitments at locations around the world, geographical relocations, and knowledge of military customs and courtesies. These nurses operated in a hierarchical structure that has been similar to many non-military health care organizations. Until recently, mentoring experiences of AFNs have not been reported in the literature. Proportion of men to women and required entry-level education provided sharp contrast to most non-military nursing environments. According to Kuppershcmidt (2000), predominance of Generation X employees in military and non-military health care organizations, and differences in their values regarding employment and mentoring preferences were characteristic of any organizational structure. Value differences of Generation X Air Force members and Baby-boomer Generation Air Force leaders,

may have contributed to unmet recruitment goals and also to more Air Force members, including AFNs, separating from the Air Force at the end of their initial commitment. For these reasons, studying the mentoring experiences of AFNs would contribute to what was known about mentoring in nursing and the Air Force, as well as non-military health care organizations.

Problem Statement

Within the last year, two relevant Air Force publications were released (Department of the Air Force, 2000a, 2000b). The first, Air Force Policy Directive (AFPD) 36-34 (2000b), mandated mentoring programs for all Air Force members. The second, Air Force Instruction (AFI) 36-3401 (2000a), expanded the former mentoring program from junior officers to all persons serving as members of the Air Force or employed as civilians by the Air Force. Guidance for implementing mentoring activities was also included.

Air Force mentors were described as persons with greater experience and wisdom serving as trusted councilors or guides (Department of the Air Force, 2000a, 2000b). Mentoring was listed as an "inherent responsibility of leadership" and commanders and supervisors were named as "keys of the mentoring process" (Department of the Air Force, 2000a, p. 2). These phrases were consistent with a traditional mentoring model, even though an informal mentoring style was appearing regularly in the literature (Darling, 1985b; Hill, Bahniuk, & Dobos, 1989; Kram &

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Isabella, 1985). This disparity, combined with a growing number of Generation X

Air Force members, could potentially reduce perceived effectiveness of the Air

Force Mentoring Program by its members, and limit successful mentoring outcomes

for Air Force members, including AFNs.

Purpose

The purpose of this study was to identify types of mentoring support

experienced by Air Force nurses and their perceptions of mentoring received in the

previous twelve months. Results of this study could enhance nurse-mentoring

programs in the Air Force and non-military health care organizations by identifying

utilized mentoring support and improving strategies for fostering professional officer

development among AFNs and non-military nurses.

Study Questions

Mentoring relationships and characteristics of mentorship, mentors, and

protégés were available in the literature (Belcher & Sibbald, 1998; Bidwell &

Brasler, 1989; Brito, 1992; Darling, 1985b; Haggerty, 1986; Klein & Dickenson-

Hazard, 2000; Vance, 2001), but mentoring support behaviors and preferences, as

well as information about AFNs was less common. Therefore, evidence-based

predictions about mentoring preferences were not realistic, and manipulation of

variables was premature. An essential first step was gathering and interpreting data

from a population of AFNs. To accomplish this first step, a level one, descriptive

study was most appropriate (Polit & Hungler, 1999) and allowed this investigator to learn more about perceived mentoring experiences reported by AFNs. Study questions for this study were:

1. What types of mentoring support do Air Force nurses report most frequently?

2. Do reported types of mentoring support differ according to demographic characteristics of (a) gender, (b) ethnicity, (c) age, (d) rank, (e) level of education, and (f) number of duty assignments?

Definition of Terms

The purpose of defining theoretical and operational terms was to (a) clearly describe study concepts and variables, (b) describe procedures used to measure concepts and variables, and (c) guide future replication studies. Theoretical definitions described what something *was*, while operational definitions described the procedure used to measure concepts or variables and provided guidance to facilitate study replication (Polit & Hungler, 1999). The following terms were defined for this study:

<u>Baby Boomer Generation</u>

This term has been theoretically defined in three parts. First, baby-boomer was defined, then generation was defined, and finally the terms were combined and defined.

Theoretical definition.

Baby-boomer: A baby-boomer was defined as an individual born during a sudden increase in a population's birthrate (Braham, 1998).

Generation: Generation was defined as a group of individuals who were born and raised during a specified period in time. Generation was described as the average period of time (in years) separating grandparents from parents and parents from children, which was about 20 to 30 years. Individuals of the same generation often shared common cultural or social characteristics and attitudes (American Heritage Dictionary, 1996; Braham, 1998).

Baby-boomer generation: Baby-boomer generation was defined as all individuals born between 1946 and 1964 and raised in the United States (Braham, 1998, Santos & Cox, 2000).

Career Mentoring

Career mentoring has been defined theoretically in terms of career and career mentoring. The terms have then been defined operationally by responses chosen on the measurement tool.

Theoretical definition.

Career: Career was defined as the general course or progression of one's working or professional life within a chosen occupation or field, including education

and training. A career has been described as the *path* towards an individual's

lifework (American Heritage Dictionary, 1996; Braham, 1998).

Career Mentoring: Career mentoring was described as a type of mentoring

support focused on one's working or professional life and defined as a personal and

intense patronage relationship with someone of higher rank (Hill, Bahniuk, Dobos, &

Rouner, 1989).

Operational definition.

Career Mentoring: A response of *4* or *5* on questions one through four of the

Mentoring and Communication Support Scale (Downs, 1994; Hill, Bahniuk, Dobos

et al., 1989).

Coaching

Coaching has been defined both theoretically and operationally. The

operational definition was developed in terms of responses on the measurement tool.

Theoretical definition.

Coaching: Coaching was defined as an instructional patronage relationship

that focused on teaching or learning the rules and goals of an organization,

profession, or both (Hill, Bahniuk, & Dobos, 1989).

Operational definition.

Coaching: A response of *4* or *5* on questions five through seven of the Mentoring and Communication Support Scale (Downs, 1994; Hill, Bahniuk, Dobos et al., 1989).

Support

Support defined theoretically was presented next instead of alphabetically. This was done so that it was clearly understood as a part of the definitions of collegial social support, collegial task support, and communication support.

Theoretical definition.

Support: Support was defined as the act, state, or operation of upholding or sustaining. Support was described as assistance that maintained or prevented an individual from failing or giving up (American Heritage Dictionary, 1996; Braham, 1998).

Collegial Social Support

Collegial social support was defined theoretically, by presenting the definition of collegial and social. A combined definition that included support was then presented. Operationally collegial social support was defined in terms of responses on the measurement tool.

Theoretical definition.

Collegial: Collegial was defined as equally dispersed power and authority among members of a group, sharing responsibility in group endeavors. A colleague was described as an associate, a fellow worker, peer, or fellow member of a profession or organization (American Heritage Dictionary, 1996; Braham, 1998).

Social: Social was defined as relations between individuals of a friendly or companionable nature. Issues such as living conditions, health, or other aspects of human life were described as social (American Heritage Dictionary, 1996; Braham, 1998).

Collegial social support: Collegial social support was defined as reciprocal and friendly, a patronage relationship focused on sharing and exchanging personal problems and confidences (Hill, Bahniuk, Dobos et al., 1989).

Operational definition.

Collegial Social Support: A response of *4* or *5* on questions eight through eleven of the Mentoring and Communication Support Scale (Downs, 1994; Hill, Bahniuk, Dobos et al., 1989).

Collegial Task Support

This type of mentoring support was defined theoretically in terms of collegial and task. A combined definition was then presented. An operationally definition was presented in terms of responses on the measurement tool.

Theoretical definition.

Collegial: Collegial was defined as equally dispersed power and authority among members of a group, sharing responsibility in group endeavors. A colleague was described as an associate, a fellow worker, peer, or fellow member of a profession or organization (American Heritage Dictionary, 1996; Braham, 1998).

Task: A task was defined as an assignment or objective. It was described as a specific piece of work required as a duty or for a specific fee (American Heritage Dictionary, 1996; Braham, 1998).

Collegial task support: Collegial task support was defined as reciprocal and collaborative, a patronage relationship focused on sharing and exchanging assignments and ideas (Hill, Bahniuk, & Dobos, 1989).

Operational definition.

Collegial task support: A response of *4* or *5* on questions twelve through fifteen of the Mentoring and Communication Support Scale (Downs, 1994; Hill, Bahniuk, Dobos et al., 1989).

Communication Support

This term was defined both theoretically and operationally. Theoretical definition was included in terms of communication, and the earlier presented definition of support. Operationally the term was defined by responses on the measurement tool.

<u>Theoretical definition.</u>

Communication: Communication was defined as a process of transmission from one place (or individual) to another place (or individual) by symbolic means (Craighead & Nemeroff, 2001). Communication was described as a connection, or transfer of information (American Heritage Dictionary, 1996; Braham, 1998).

Communication support: Communication support was defined as the informal channels and alliances (Hill, Bahniuk, Dobos et al., 1989) that provided information to nurses for the purpose of developing strategies for positive outcomes within an organization.

<u>Operational definition.</u>

Communication support: Operationally, communication support was a total mean score between *53* and *75* on the Mentoring and Communication Support Scale (Downs, 1994; Hill, Bahniuk, Dobos et al., 1989)

<u>Contemporary Mentoring</u>

This type of mentoring was defined theoretically by defining contemporary and mentoring. A theoretical definition of mentoring was presented here and then later for clarity purposes.

Theoretical definition.

Contemporary: Contemporary was defined as modern and of the present (American Heritage Dictionary, 1996; Braham, 1998).

Mentoring: Mentoring was defined as a communication support system designed to enhance success of the individual, organization, or both (Hill, Bahniuk, & Dobos, 1989).

Contemporary mentoring: Contemporary mentoring was defined as a strategy, utilized by the mentee, in which a number of individuals with perceived expertise, influence, or other desired traits were sought out as mentors and support figures to facilitate personal or professional development of the mentee.

Generation X

Theoretical definition.

Generation X: Generation X was defined as all individuals born between 1965 and 1981, who were raised in the United States (Braham, 1998; Santos & Cox, 2000).

Operational definition.

Generation X: Generation X was defined as a response of age *21 – 26, 27 – 32,* or *33 - 38* on the Demographic Data Sheet.

Mentee

Mentee has been defined both theoretically and operationally for purposes of this study. Theoretical definition was based on the literature and the operational definition was developed for use with contemporary mentoring.

Theoretical definition.

Mentee: A mentee was defined as the recipient of mentoring support (DeSalvo Rankin, 1991). In traditional mentoring models, a mentee would be junior and less experienced than the mentor. In contemporary mentoring, the mentee could be equal or senior to the individual providing mentoring support. The term mentee could be substituted for protégé, but protégé could not be substituted for mentee.

Operational definition.

Mentee: Mentee was operationally defined as the respondent; the individual responding to items in the Mentoring and Communication Support Scale (Downs, 1994; Hill, Bahniuk, Dobos et al., 1989).

Mentor

Theoretically, mentor was defined based on the literature. Operationally, the term mentor was an individual perceived as such by the respondent.

Theoretical definition.

Mentor: Mentor was defined as the senior member of the mentoring relationship as evidenced by rank, experience, sphere of influence, or combination of the three (Braham, 1998; Kram, 1983; Wickman & Sjodin, 1997; Yoder, 1990).

Operational definition.

Mentor: Mentor was operationally defined as the individual considered when responding to items in the Mentoring and Communication Support Scale (Downs, 1994; Hill, Bahniuk, Dobos et al., 1989), as identified by the respondent.

Protégé

Protégé has been defined both theoretically and operationally for purposes of this study. Theoretical definition was based on the literature and the operational definition was based on literature for use with non-collegial types of mentoring.

Theoretical definition.

Protégé: Protégé was defined as the junior member of the mentoring relationship as evidenced by rank, experience, sphere of influence, or combination of the three (Braham, 1998; Kram, 1983; Wickman & Sjodin, 1997; Yoder, 1990).

Operational definition.

Protégé: Protégé was operational defined as the respondent; the individual

responding to items in the Mentoring and Communication Support Scale (Downs,

1994; Hill, Bahniuk, Dobos et al., 1989).

Traditional Mentoring

Traditional mentoring has been defined in terms of both traditional and

mentoring. The operational definition was based on the study's measurement tool.

Theoretical definition.

Traditional: Traditions were defined as opinions, beliefs, or customs

transferred from one individual to another, often among family members (Braham,

1998).

Mentoring: Mentoring was defined as a communication support system

designed to enhance success of the individual, organization, or both (Hill, Bahniuk,

& Dobos, 1989).

Traditional mentoring: Traditional mentoring was defined as a mutually

beneficial relationship formed to advance the career of the protégé. Traditional

mentoring encompassed a multitude of tasks and functions, which were determined

by the mentor, protégé, or the organization.   Mentoring relationships resembled

those of parent-child in terms of the expenditure of time, energy, and support, as well

as emotional investment. (Angelini, 1995; DeSalvo Rankin, 1991; Haring-Hidore,

1987; Prestholdt, 1990; Ross, 1984; Vance, 1982; Whitley, Dougherty, & Dreher, 1991).

Operational definition.

Traditional mentoring: Traditional mentoring was defined as a response of *4* or *5* on questions one through four of the Mentoring and Communication Support Scale (Downs, 1994; Hill, Bahniuk, & Dobos, 1989).

Assumptions

Polit and Hungler (1999) described an assumption as a "basic principle that is believed to be true without proof or verification" (p. 10). This researcher made the following assumptions regarding this study and its participants because controlling all extraneous variables in an uncontrolled environment was not possible. Study assumptions were:

1. Participants would complete the survey independently and return it in the time and manner requested.

2. Anonymity of respondents would encourage truthful responses (Polit & Hungler, 1999).

3. AFNs had preceived mentoring support within the preceding twelve months.

4. Treatment fidelity, which for this study was distributing surveys according to defined procedure, would be maintained at all survey sites (Gall, Borg, & Gall, 1996).

5. Data retrieved actually measured and described mentoring practices, or lack of mentoring practices reported by AFNs.

6. Traditional mentoring was not compatible with Air Force structure and culture.

Limitations

Polit and Hungler (1999) described limitations as weaknesses related to sampling deficiencies, design constraints, or data quality. Several limitations were identified in this study and deemed acceptable by this researcher. These limitations were primarily related to AFNs and therefore the purpose of the study was not compromised by the limitations. Other identified limitations were inherent to survey research (Gall et al., 1996).

Study limitations were:

1. Air Force nurses were a demographically unique population. This uniqueness was the result of defining characteristics of this population including gender ratio, required entry-level education, and role of professional officer.

2. Demographic uniqueness of this sample may have reduced ability to generalize results for all nurses.

3. This researcher was geographically separated from survey sites, which necessitated a mailed survey to study participants. Time, place, and

environment in which surveys were completed could not be controlled beyond asking that defined procedural steps be followed.

4. Study participants may have been influenced by the Hawthorne effect. Polit and Hungler (1999) defined Hawthorne effect as the type of answers that might be given when participants were aware their answers were part of a research study (Polit & Hungler, 1999).

5. Limitations were imposed by self-report procedure utilized in this study. Polit and Hungler (1999) defined self-report as a data collection method involving a direct report of information from a study participant. One of the potential problems with this method was that participants might answer questions based upon what they felt was being studied, rather than their actual perceptions (Gall et al., 1996).

CHAPTER II

REVIEW OF LITERATURE

Introduction

Preparation for this research study included a literature review. A review can

acquaint one with theoretical issues of personal interest and was useful for learning

about the knowledge base of the selected topic. One of the most important steps of

the literature review was organizing information into a conceptual context in order to

conduct a study (Polit & Hungler, 1999). This chapter reviewed the mentoring

literature of several disciplines and described the communication support framework

of mentoring in the workplace.

Literature Review

One common theme found in mentoring literature was the relationship

between mentoring and job success, and satisfaction (Adams, 1997; Brey &

Olgletree, 1999; Collins, 1994; Cuesta & Bloom, 1998; Dreher & Ash, 1990;

Ecklund, 1998; Haring-Hidore, 1987; Hunt & Michael, 1983; White, 1988; Whitely

et al., 1991). Immeasurable time and effort by researchers (Levinson et al., 1978;

Stewart & Krueger, 1996; Vance & Olson, 1998; Yoder, 1990, 1992) was devoted to

the study of mentoring, with little consensus as to definition or process. Initially, this

review was influenced by the work of others and distracted by outcomes of success

and satisfaction. However, once this investigator's focus moved from outcomes of mentoring to characteristics of mentoring utilized in the workplace, a new concept of mentoring was revealed in the literature (Abbott, 2000; Bahniuk, Dobos, & Hill, 1990; Business Wire, 1999; Darling, 1985b; Hill, Bahniuk, Dobos et al., 1989; Kupperschmidt, 2000).

This review gathered the perspectives of multiple disciplines and separated relationships between mentoring and assorted variables according to formality of mentorship. Traditional/formal mentoring was discussed in terms of mentoring relationships in nursing and mentoring phases. Transitional/informal mentoring was discussed in terms of mentoring relationships in nursing and mentoring alternatives. Mentoring from a military perspective preceded a discussion of anecdotal accounts of mentoring.

<u>Traditional/Formal Mentoring</u>

Prior to the mid-1980s, the nature of mentoring was characterized by a relationship between a mentor and a protégé. The relationship was described as intense, emotional, and lasting a period of years (Kram, 1983; Levinson et al., 1978; Vance, 1982). Mentors and protégés were usually defined within a hierarchical system, which placed them on different levels of power, experience, skill, and authority (Carey & Campbell, 1994; Levinson et al., 1978; Yoder, 1990).

Traditional mentoring relationships in nursing. Vance (1982) was one of the

first nurse researchers to look at the impact and prevalence of mentoring in nurses.

According to Vance (1982), mentoring relationships resembled parent-child in terms

of the expenditure of time, energy, and support, as well as emotional investment.

These relationships, described as mentor connections, offered many benefits.

Mentor connections prepared protégés for future leadership roles, influenced career

advancement and success, and affected self-confidence and personal satisfaction for

both mentor and protégé (Vance & Olson, 1998).

Referring to a study of 71 nursing leaders, Vance (1982) discussed that 83%

of nurses reported participating in a mentoring relationship as the protégé, and 93%

reported participating as a mentor. Due to the high percentage of mentored nurses

and nurse-mentors in this study, results suggested that most mentored nurses went on

to become mentors. Other findings of interest were mentoring behaviors

experienced and reported by participants. Career-related functions were experienced

most often, followed by professional role modeling, intellectual and scholarly

stimulation, inspiration and idealism, teaching, advising, and tutoring, and emotional

support (Vance, 1982).

Fagan and Fagan (1983) compared the frequency of mentoring in nurses ($n =$

87), police officers ($n = 70$), and public school teachers ($n = 107$). Participants

completed the Kentucky Mentoring Survey, a 55-item questionnaire that addressed

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mentoring, subject demographics, and occupation. Fagan and Fagan (1983) pilot

tested their instrument with a group of undergraduate and graduate students ($\underline{n}$ = 26)

who were working full-time as: teachers ($\underline{n}$ = 17), police officers ($\underline{n}$ = 4), ministers ($\underline{n}$

= 2), counselors ($\underline{n}$ = 2), and a nurse ($\underline{n}$ = 1). Suggestions of the pilot test group were

incorporated into the final version of the Kentucky Mentoring Survey. The Chi

Square Test of Goodness of Fit and the Chi Square Test of Association were utilized

in statistical analysis of variances that existed between the subgroups within the

sample. Having a mentor associated with job satisfaction, rank, job burnout, and

being a mentor. The majority of nurses (84%) stated they had received "some

mentoring", while less than half (43%) had received "diffuse mentoring". Only 53%

of nurses reported a "definite mentor" (Fagan & Fagan, 1983, p. 80). Investigators

concluded, based on their data, that results from police officer and teacher subjects

were consistent with nurses. Three significant variables of four were associated with

having a mentor: (1) job satisfaction χ^2 (9, $\underline{N}$ = 264) = 19.59, $\underline{p}$<.025 indicated that

job satisfaction was greater for those reporting a "definite mentor"; (2) mentoring

was associated with burnout χ^2 (6, $\underline{N}$ = 264) = 21.35, $\underline{p}$<.025, but burnout was more

common in participants with several reported mentors; and (3) mentoring was

associated with being a mentor χ^2 ($\underline{N}$ = 264) = 23.49, $\underline{p}$<.005, which suggested that

nurses with a definite mentor would be more likely to serve as a mentor than those

without a definite mentor. Within this sample, results suggested mentoring practices

were similar between occupations, and enhanced professional growth. The sample;

however, was too small (n = 87 nurses, n = 70 police officers, and n = 107 school

teachers) to generalize findings to all nurses, police officers, and teachers.

Additionally, the absence of definitions for some mentoring, diffuse mentoring and

definite mentor limited interpretation of findings.

Mentorship phases. Kram (1983) reported mentoring relationships offered

career as well as psychosocial development opportunities for protégés through

various interactions with their mentor. Career development was enhanced through

mentoring support like: (a) sponsorship, (b) coaching, (c) protection, (d) exposure

and visibility, and (e) challenging work assignments (Kram, 1983). This mentoring

support served to teach the subtleties of the organization while preparing for career

advancement opportunities. Psychosocial development was enhanced through

mentoring support such as: (a) role modeling, (b) acceptance and confirmation, (c)

counseling, and (d) friendship. These functions improved the protégé's competence

and confidence. The mentor was rewarded with peer recognition and respect,

protégé confirmation and support, and personal satisfaction from helping others.

Kram (1983) studied 18 mentoring relationships and identified four distinct phases of

mentoring relationships. The first phase was initiation, in which roles were

established. Cultivation, the second phase, was the most beneficial because

interactions between mentors and their protégés were more effective during this

phase of the relationship. The separation phase signaled the end of productive mentoring, and often marked a painful and stressful period for both mentors and protégés. The final phase, redefinition, initiated the end of former mentoring roles and in some cases, the beginning of a collegial friendship. Kram's (1983) study focused on the phases of mentoring relationships and identified specific behaviors, called turning points, associated with entering each phase.

Initiation was defined as a period of six to twelve months during which the relationship began to have importance for both mentors and protégés (Kram, 1983). Mentors saw the potential in another and enjoyed working with their protégé. Protégés had a sense of being cared for, supported, and respected by their mentor whom they admired. Several events moved mentor and protégé into the initiation phase. First, the protégé formed expectations from ideals of a mentoring relationship. Second, work tasks allowed interaction between junior and senior employees, and mentoring functions were initiated. The more senior employee provided coaching, challenging work, and visibility while the more junior provided technical assistance to the senior person they respected, and with whom they desired a coaching relationship (Kram, 1983).

Mentoring relationships moved into the cultivation phase when both mentor and protégé perceived continued benefits from the relationship. Opportunities for meaningful and more frequent interaction increased and there was increased

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intimacy and a deepening psychosocial bond. This phase usually ranged from two to five years during which a range of career (in accordance with the mentor's organizational position, tenure, and experience) and psychosocial mentoring interactions occurred (Kram, 1983).

When the protégé wanted autonomy more than guidance, effective mentoring began to deteriorate. Separation was also triggered by reduced availability of the mentor, job rotations or promotions, or resentment from either mentor or protégé caused by increased competition and decreased power differential (Kram, 1983). This separation phase ranged from six months to two years (Kram, 1983). Separation involved a change in the structure of the relationship, like a promotion or transfer to another geographic area. Separation often contained an emotional component. Either member could feel abandoned or unprepared as the mentoring relationship changed, resentment could develop if the change was not communicated clearly or if the change resulted from increased competitiveness between mentor and protégé (Kram, 1983).

Mentor and protégé entered the final phase when the stress of separation diminished and a new relationship, often similar to other peer relationships was formed. Resentment and anger were replaced with gratitude and appreciation. Redefinition meant the end of the mentoring relationship or the creation of a

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collegial or friend relationship (Kram, 1983). This final phase signified a change in the needs of both mentor and protégé.

In summary, traditional mentoring relationships were characterized by differences in age, experience, knowledge, and sphere of influence. Relationships were often formal, with distinct phases. Mentoring relationships developed in numerous organizations because they were associated with positive career outcomes.

Transitional/Informal Mentoring

Literature (Anderson & Shannon, 1988; Andrews & Wallis, 1999; Bidwell & Brasler, 1989; Campbell-Heider, 1986; Hagerty, 1986; Stachura & Hoff, 1990) documented the evolution of mentoring as it moved away from traditional relationships during the mid-1980s and towards less structured relationships (Abbott, 2000; Darling, 1985b; Di Vito-Thomas, 1998; Heinrich & Scherr, 1994). For the first time, mentoring was not limited to long-term relationships between individuals with distinct experience, seniority, and sphere of influence differences. As Generation X employees entered the workforce, mentoring styles began to reflect their values (Abbott, 2000; Darling, 1985b; Kupperschmidt, 2000).

Yoder (1990) introduced a model for examining mentoring in nursing developed from a concept analysis of mentoring. Mentoring was described as a process influenced by gender, ethnicity, career stage, power, and organizational context. This mentoring process involved both instrumental and psychosocial

mentoring practices, resulting in increased professionalism, retention, and job satisfaction. Role modeling, sponsorship, precepting and peer strategizing were identified as elements of mentorship (Yoder, 1990). Four mentorship elements, identified by Yoder (1990), were consistent with findings from other researchers (Hill, Bahniuk, Dobos et al., 1989; Kram & Isabella, 1985). A mentoring continuum (Hill, Bahniuk, Dobos et al., 1989; Kram & Isabella, 1985; Yoder, 1990) was an innovative conceptualization that continued to move mentoring away from traditional frameworks.

Mentoring relationships in nursing. Angelini (1995) described mentoring as multidimensional, situational and relational. Perceived mentoring experiences of 45 staff nurses at four hospitals in two northeastern states were studied. Exploratory, descriptive data were gathered through audio taped face-to-face interviews, biographical data and career history questions, and document analysis of job descriptions, philosophies, and mission statements within each facility. Using a grounded theory approach, Angelini analyzed transcribed recordings of interviews by performing constant comparative analysis. Data were coded throughout analysis, generating conceptual models explaining the perceived mentorship of study informants. Using two independent reviewers, interrater reliability on 22 data items was assessed at 91% and 71% agreement. The investigator identified a structural and a process model. Within the structural model, the environment, people, and

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events were named as mentoring influentials. The process model included four phases leading to career development outcomes. Three desired outcomes listed were: (1) development of career-building relationships, (2) facilitation of career transition points, and (3) positive interactions within the organizational climate. Angelini (1995) concluded that clinical nurses valued mentoring and that it provided positive career outcomes.

In an investigation of mentor potential, 23 nursing graduate students and their respective preceptors employed at a large urban institution were asked about the most important qualities of a mentor in a mentoring relationship (Beauchesne & Howard, 1996). An essential component identified most often in both groups was a willingness to mentor. Other important qualities considered by preceptors were confidence, patience, time, trust, experience, and communication skills. Students listed experience, patience, knowledge, and good communications skills as additional qualities important for a mentor. Both preceptors and students agreed that a supportive administration and a philosophical commitment to education were positive factors controlled by the organization, while heavy caseloads and lack of time and interest were negative factors attributed to the organization. Meaningful mentoring relationships were described by both groups as reciprocal, challenging, stimulating, or rewarding (Beauchesne & Howard, 1996). Results of this investigation suggested that traditional mentors were not necessarily the most

effective, and that mentoring preferences were moving away from formal structure

associated with traditional mentoring relationships

Alternative mentoring relationships. Kram and Isabella (1985) interviewed

25 relationship pairs to study peer relationships in career development. Participants

were recruited from a northeastern manufacturing company and evenly divided into

early (ages 25 – 35), mid (ages 36 – 45), and late (ages 46 – 65) career stages.

Participants reported several attributes common to both traditional mentoring and

peer relationships. Traditional mentoring and peer relationships enhanced career

development and served a number of career and psychosocial functions. Important

differences discussed between these relationships were that peer relationships usually

occurred between individuals that were similar in age and career stage, compared to

the age and power differential of traditional mentoring relationships. Peer

relationships involved a two-way exchange of career and psychosocial functions

compared with the one-way exchange of mentor to protégé. Kram and Isabella

(1985) described a variety of functions within peer relationships and identified three

types of peer relationships. These three types of peer relationships were (1)

information peer, providing information-sharing functions; (2) collegial peer,

providing career strategizing, job-related feedback, and friendship functions; and (3)

special peer, providing confirmation, emotional support, personal feedback, and

friendship functions. This research suggested that traditional mentoring had evolved

into transitional mentoring to meet needs of both mentors and protégés. Peer relationships could provide an alternative to traditional mentoring and offer career development strategies for individuals who did not have, or desire, a traditional mentoring relationship.

Sharing information was reported as a primary function of peer relationships (Kram & Isabella, 1985). Level of commitment required for this type of relationship was minimal, and benefits like networking exceeded relationship costs in terms of time, energy, and commitment. The relationship was primarily social and did not require the same level of trust needed in traditional mentoring relationships (Hunt & Michael, 1983; Kram, 1983). Information peers satisfied the need for information about career opportunities (Kram & Isabella, 1985).

Collegial peer relationships provided job related feedback, a fellow career strategist, and friendship opportunities. These relationships required a higher level of trust and commitment than informational peer relationships, but they remained primarily work relationships (Kram & Isabella, 1985). Collegial peer relationships were described as give and take interactions between two people in the same, or similar, position(s). Kram and Isabella (1985) discovered that an individual might have two to four collegial peers and that the relationships were between individuals working in the same department or area where frequent interactions occurred.

Kram and Isabella (1985) identified special peer as the strongest of the peer relationships. Special peers provided support for professional as well as personal concerns. These relationships were rare, perhaps because they developed over a period of several years, and because they required high levels of mutual trust. Once formed, special peer relationships typically endured organizational change and transition by one or both individuals (Kram & Isabella, 1985). Special peer relationships required a high level of commitment, but in return offered professional continuity and stability, as well as personal friendship and validation (Kram & Isabella, 1985).

Secondary mentoring was another alternative reported to traditional mentoring relationships. This mentoring alternative described interactions less intense than traditional mentoring relationships, but more than sponsorship or manager-employee relationships (Whitely et al., 1991). Secondary mentoring utilized multiple mentors and offered specialized career or psychosocial benefits to one or more protégés. The focus was often external, relying on roles of sponsorship, exposure, and visibility to obtain career progress (Kram, 1985). Secondary mentoring developed in response to widespread organizational change and independent, mobile characteristics of the workforce (Whitely et al., 1991).

In summary, mentoring literature of the last fifteen years described many types of mentoring. Unlike the traditional model, transitional mentoring styles

incorporated different levels of formality and commitment. Peer mentors and

protégés with multiple mentors at the same time contributed to the evolving concept

of mentoring.

<u>Mentoring from the Military Perspective</u>

According to Sorley (1988), military environments were not always capable

of fostering effective mentoring relationships because of barriers such as frequent

geographical moves, both permanent and temporary duty, and the rank-based

structure of the military. Sorley (1988) argued that the most important aspect of

mentoring was "value transmittal" and that supervisors, commanders, and

professional military schools shared responsibility for "instilling professionalism,

commitment, self-restrain, loyalty, and duty to Army officers" (p. 77). Sorely's

premise that mentoring relationships were not common in the Army was supported

by findings of the study of 170 Army Nurses (Yoder, 1992).

Yoder (1992) investigated head nurses and nursing supervisors serving in the

Army to identify characteristics of their mentoring relationships. Participants were

solicited from ten Army hospitals across the United States. One hundred seventy

nurses, representing ranks of First Lieutenant through Colonel, completed a survey

questionnaire. Although 30 nurses reported they had not been mentored, 169 of 170

nurses said they believed mentoring was "extremely important" (Yoder, 1992, p.

521). Most mentoring relationships (44%) began at the rank of Captain, and 78% of

relationships reportedly occurred by chance rather than design. Respondents (49%) claimed their mentoring relationship had a "substantial" influence personally and a "very great" influence professionally (Yoder, 1992, p. 521). Participants were asked to select five attributes from a list of 21 items that best described their most significant mentor and then rank order the attributes selected. Attributes selected as most important attributes were: (a) recognized my ability, (b) knowledgeable, (c) role model, (d) encouraging, (e) friend, and (f) increased my responsibilities. Other attributes considered important were: (a) offered acceptance and confirmation, (b) counselor, (c) opened me to new areas, (d) taught me tricks of the trade, (e) coach, and (f) promoted my self-confidence (Yoder, 1992). Findings indicated many relationships, perceived as mentoring relationship by participants, were not mentoring relationships as defined in the literature (Hunt & Michael, 1983). Some (9%) identified their mentor as being of the same rank or job position; others described relationships that did not last as long as would be expected in a traditional mentoring relationship. Participants also described other variances from traditional mentoring including a predominance of task-oriented attributes compared to psychosocial attributes. The reported task-oriented attributes implied that relationships were most likely precepting, coaching, or sponsoring rather than mentoring relationships. Yoder concluded that while career development relationships were taking place, less than half were mentoring relationships.

In an Air Force instruction (similar to a policy) describing officer

professional development, AFNC leaders named mentoring one of the most efficient

tools available to assist junior nurses adapt to Air Force nursing (Department of the

Air Force, 1996). That same year, the Air Force implemented a formal mentoring

program. An update (Department of the Air Force, 2000a) stated that the program

was intended to "infuse all levels of leadership with mentoring to effect a cultural

change – one where senior officers could pass on the principles, traditions, shared

values, and lessons of our profession" (p. 1).

Mentoring programs were well documented in the literature (Andrews &

Wallis, 1999; Glass & Walter, 2000; Haynor, 1994; Owens, Herrick, & Kelley,

1998; Prestholdt, 1990), and mentoring characteristics and benefits for mentors,

protégés, and organizations were also reported (Brey & Olgletree, 1999; Collins,

1994; Cuesta & Bloom, 1998; Dreher & Ash, 1990; Ecklund, 1998; Haring-Hidore,

1987; Hunt & Michael, 1983; White, 1988; Whitely et al., 1991). Based on

attributes reported in the literature (Sachdeva, 1996) one essential ingredient missing

in the Air Force program was mutuality. According to <u>Air Force Instruction 36-3401</u>

(Air Force Mentoring; Department of the Air Force, 2000b) the Air Force Mentoring

Program had predetermined objectives and interventions designed to meet those

objectives. While there was literature supporting benefits to mentor, protégé, and

organization (Angelini, 1995); this investigator could not find any literature

describing mandated programs with aggregate based objectives.

Anecdotal Accounts of Mentoring

Evidence of the power and pervasiveness of mentorship was found in the

personal stories of celebrated public figures and ordinary men and women. Edelman

(1999), President of the Children's Defense Fund and one of the first Black attorneys

in Mississippi, recently wrote a book dedicated to her personal mentors. Edleman

referred to the mentors of her life as lanterns and introduced them to the reader with

thought and care. She captured, through her personal testimony, the power and

influence that mentors generated in younger, impressionable people in a way the

professional literature could not. One of her early lanterns was an older Black

woman from "down the street" (p. 13) in her hometown of Bennetsville,

Mississippi. Miz Tee did not finish school, but demonstrated the values of hard

work, discipline, and a belief in the saving grace of Jesus Christ to a young,

impressionable Black girl (Edelman, 1999).

A personal mentor also touched the life of Quick (2000). After recognizing

special qualities of a personal mentor, Quick set out to discover if other women had

experienced similar relationships. Personal stories from thirty women aged 22 to 74

were woven into a creative analogy of children's fairy tales. Quick compared

mentors to the Fairy Godmother that intervened on behalf of Cinderella. Negative

mentoring experiences were compared to the tale of Snow White and the Wicked

Queen, who poisoned Snow White because she was more beautiful than the Queen.

In summary, Edelman (1999) and Quick (2000) shared stories of mentors

who changed their lives. Their motivations were, in part, a way to publicly thank

their mentors. Professional literature has studied mentoring in a more formal,

structured way, but the results of both were similar. Anecdotal accounts of

mentoring presented the characteristics and benefits of mentoring, while professional

studies provide definitions, statistics, and process. Together, personal and

professional accounts of mentorship captured the essence of traditional mentoring

relationships, and to a lesser extent described less formal, transitional mentoring

relationships.

Conceptual Framework

Substantial quantities of literature (Anderson & Shannon, 1988; Belcher &

Sibbald, 1998; Brito, 1992; Cameron-Jones & O'Hara, 1996; DeSalvo Rankin, 1991;

Haynor, 1994; Klein & Dickenson-Hazard, 2000; Speizer, 1981; Stachura & Hoff,

1990; Stewart & Krueger, 1996; Vance, 1982; Yoder, 1990) were devoted to

describing, testing, and understanding the concept of mentoring, yet no consensus on

a single *best* definition of mentoring was identified. Although the formal nature of

the interpersonal mentoring dynamic lessened with time, protégés continued to credit

mentors for their success (Abbott, 2000; Belcher & Sibbald, 1998; Di Vito-Thomas,

1998; Glass & Walter, 2000). Literature clearly indicated a link existed between mentoring relationships and positive outcomes. However, the characteristics of mentor and protégé, which have been reported extensively in nursing literature (Andrew & Wallis, 1999), may have overshadowed the actual mentoring support exhibited in the relationship. The framework for this study was developed from literature surrounding mentoring and informal communication support systems. Primarily the focus of this framework was the continuum of mentoring and communication support described by Hill, Bahniuk, Dobos, et al. (1989), and Bahniuk, et al. (1990). As introduction to types of mentoring support included in the conceptual framework, the role of collegial support systems and support networks in mentoring was discussed. Next, the framework of mentoring support was presented. Four types of mentoring and communication support were described: (1) career mentoring, (2) coaching, (3) collegial social support, and (4) collegial task support. Finally, application of the conceptual framework to this study was presented.

Collegial Support Systems

Several researchers (Bahniuk et al., 1990; Bainer & Didham, 1994; Hill, Bahniuk, Dobos, 1989; Hill, Bahniuk, Dobos et al., 1989; Kram & Isabella, 1985; Shapiro, Hazeltine, & Rowe, 1978) have described mentoring in terms of collegial support continuums. Collegial support relationships have ranged from formal to informal, and provided psychosocial and career enhancing benefits at multiple points

along the continuum (Kram & Isabella, 1985). Darling (1985b) asserted that the sum of informal, minor mentoring experiences provided benefits consistent with a single, intense mentoring relationship. This concept of multiple minor mentors was described as the "strength of weak ties" (Darling, 1985b, p. 41).

Similar to Kram and Isabella's continuum of peer relationships (1985), Hill, Bahniuk, Dobos, et al (1989) utilized a continuum of collegial relationships for mentoring and communication support. Collegial support, an informal system of transferring "unwritten rules" between colleagues (Hill, Bahniuk, Dobos et al., 1989, p.15), offered an alternative mentoring scheme to individuals without traditional mentors. Benefits for women and minorities were of particular interest to researchers (Bahniuk et al., 1990; Hill, Bahniuk, Dobos et al., 1989), since these two groups traditionally had less opportunity to participate in male-dominated mentoring relationships (Bainer & Didham, 1994; Feist-Price, 1994; Hill, Bahniuk, Dobos et al., 1989). Collegial support systems employed one-way (nonreciprocal) and two-way (reciprocal) support.

Support continuum development. Hill, Bahniuk, Dobos, et al (1989) formulated a continuum of mentoring and communication support by analyzing characteristics of mentoring and support reported in the literature, and organizing similar characteristics in groups. Next, they compared job functions of academics, their study population, to characteristics of mentoring and support. The end result

was a multidimensional continuum of mentoring and communication support. The

continuum's full range of support was tested by developing a scale to measure level

of agreement with questions describing characteristics on the continuum (Hill,

Bahnuik, Dobos et al., 1989). The Mentoring and Communication Support Scale

(Downs, 1994, Hill, Bahniuk, Dobos et al., 1989) was first used to identify

perceptions of support among academics, but has since been used with other

populations including elementary school teachers (Bainer & Didham, 1994).

Support Networks

Bainer and Didham (1994) reported participating in supportive relationships

was a significant need among educators. In their study of elementary school

teachers, Bainer and Didham (1994) described several barriers to effective traditional

mentoring relationships. Identified barriers related to the nature of the relationships,

such as their exclusive tendencies, dependence upon time and financial assistance,

and the contradiction of mandated mentoring programs and empowerment. Using

the Mentoring and Communication Support Scale (Hill, Bahniuk, Dobos et al., 1989)

as a guide, Bainer and Didham (1994) developed the Teacher Support Behavior

Survey to examine mentoring support behaviors of elementary teachers. Content of

the Teacher Support Behavior Survey (TSBS) was derived from a content analysis of

interviews conducted with 18 elementary school teachers and supported by a pilot

test with 6 elementary school teachers prior to being used with their study's sample

of 488 elementary school teachers. Six factors were identified on the teacher support

behavior continuum: (1) mentoring, (2) supporting, (3) collaborating, (4) career

strategizing, (5) supervising, and (6) grounding (Bainer & Didham, 1994). Results

of this study were consistent with findings from other studies (Bahniuk et al., 1990;

Hill, Bahniuk, Dobos et al., 1989; Kram & Isabella, 1985) that placed support

behaviors on a multidimensional continuum. Bainer and Didham (1994) concluded

that mentoring programs designed for multidimensional support networks would be

more effective than traditional mentoring programs.

Mentoring and Support Continuums and the Air Force

Given that traditional mentoring relationships could not exist without

potentially compromising professional Air Force relationships (Department of the

Air Force, 1999), collegial support systems appeared to be an alternative that would

not cross the boundary into unprofessional relationships (Department of the Air

Force, 1999). Air Force structure and culture appeared to be more suited to a

mentoring support continuum than traditional mentoring because of formal and

informal rules about conduct for officers and enlisted members. Within a support

continuum, opportunities to give and receive various types of mentoring support

were available to all members. Type of mentoring support utilized would be

determined by the relationship between mentor and protégé and the desired outcome:

career advice, personal support, or collaboration on a project (Hunt & Michael,

1983). For example, the Air Force has defined unprofessional relationships as inappropriate familiarity between members of different rank that affected morale of unit members (Department of the Air Force, 1999). One example of an unprofessional relationship was fraternization. Traditional mentoring relationships would, in many cases, be defined as fraternization. In addition to impact on morale and well-being, Air Force leaders have discouraged fraternizing relationships because they inhibited (potentially) the senior member's ability to give fair and just orders to subordinates during crucial times, like war (Department of the Air Force, 1999). The alternative mentoring continuum could allow members to give and receive personal or professional mentoring support without forming traditional mentoring relationships.

Career Mentoring Support

Career mentoring was most like traditional mentoring relationships in regards to paternalistic and non-reciprocal characteristics. In the Air Force, several methods of providing career mentoring were given to AFNs including performance feedback, official publications, professional military education, and interactions with supervisors and other senior officers (Department of the Air Force, 2000b). Each method was intended to transmit Air Force values and role expectations, which, as noted by Sorley (1988), was an important function of mentoring in the military. Mentoring support from supervisors and senior officers also provided leadership

opportunities for junior AFNs. Although frequently viewed as *additional duties* by junior nurses, assignments like coordinating a special project or participating in Air Force activities outside of nursing were examples of career mentoring activities (Department of the Air Force, 2000b; Total Nursing Force, 2000a).

Coaching

In a study of mentoring support among managers, coaching behaviors transmitted early career guidance that facilitated formation of personal and professional goals (Bahniuk et al., 1990). Coaching support among AFNs have provided guidance about interpreting regulations, maintaining military bearing, and developing officership (Total Nursing Force, 2000a). Many orientation programs, including the Nurse Transition Program for new nurses entering the Air Force, have utilized coaching support by incorporating preceptors. Support behaviors exhibited by preceptors contributed to successful transition into Air Force nursing (Hutchison, All, Loving, & Nishikawa, 2001).

Collegial Social Support

Collegial social support was described as a reciprocal peer-to-peer relationship (Hill, Bahniuk, Dobos et al., 1989). In a review of professional networks conducted by Hitchcock, Bland, Hekelman, and Blumenthal (1995), collegial social support (Hill, Bahniuk, Dobos et al., 1989) was compared to special peer relationships (Kram & Isabella, 1985) and found to be "almost identical"

(Hitchcock, et al., 1995, p. 1110). Collegial social support usually addressed social

concerns or situations, like sharing confidences or exchanging solicited constructive

criticism (Hill, Bahniuk, Dobos et al., 1989). For many, serving in the Air Force has

meant moving away from the support of family and friends. Air Force members

have been encouraged to seek out and support one another in order to foster team

spirit. For example, members who were reassigned to a new duty location received

an Air Force sponsor of similar rank, who offered a personalized introduction to the

community, housing options, leisure activities, and job requirements. These

activities exemplified collegial social support.

<u>Collegial Task Support</u>

Collegial task support has usually addressed job or project specific concerns

or situations, such as helping one another complete assigned tasks or exchanging

ideas (Hill, Bahniuk, Dobos et al., 1989). Hitchcock, et al. (1995) compared

collegial task support (Hill, Bahniuk, Dobos et al., 1989) to information peers and

collegial peers (Kram & Isabella, 1985) and described them as "similar" (p. 1110).

Like collegial social support, collegial task activities were reciprocal, peer

relationships. AFNs have been encouraged to work together on a number of

facility-wide and unit-specific committees. For instance, at a large medial treatment

facility on the west coast, the nursing staff development committee included a staff

nurse from every inpatient unit and outpatient clinic. Collegial task support was

provided within the committee when nurses consulted one another and assisted each

other in accomplishing committee-directed projects within the facility. Collegial

task support was present within nursing units because committee activities were

initiated by and for staff nurses.

Application of the Conceptual Framework to this Study

In an exhaustive review of literature in all disciplines, Hitchcock, et al.

(1995) named the continuum of mentoring support described by Hill, Bahniuk,

Dobos, et al (1989) "the most comprehensive model of colleague relationships in the

academic setting" (p. 1110). The schematic diagram (see Figure 1) developed from

research (Hill, Bahniuk, Dobos et al., 1989), appears to incorporate the intent of the

Air Force Mentoring Program, as defined by the Air Force (Department of the Air

Force, 2000a). As demonstrated in Figure 1, behaviors were related but not

interdependent. They were also equitable. Mentors and protégés could engage each

other for the duration of a project or other event and then disengage without the

psychosocial conflict described in traditional relationships (Kram, 1983).

Essentially, mentoring support could be given and received according to preferences

of those involved.

Mentoring support has traditionally been present in a variety of Air Force

activities, yet has not been recognized as support or mentoring. The schematic

diagram, developed from the literature and corresponding research instrument

(Downs, 1994; Hill, Bahniuk, Dobos et al., 1989), guided this investigator's research

and could potentially result in formulating recommendations to Air Force leaders

about implementation strategies for mentoring programs.
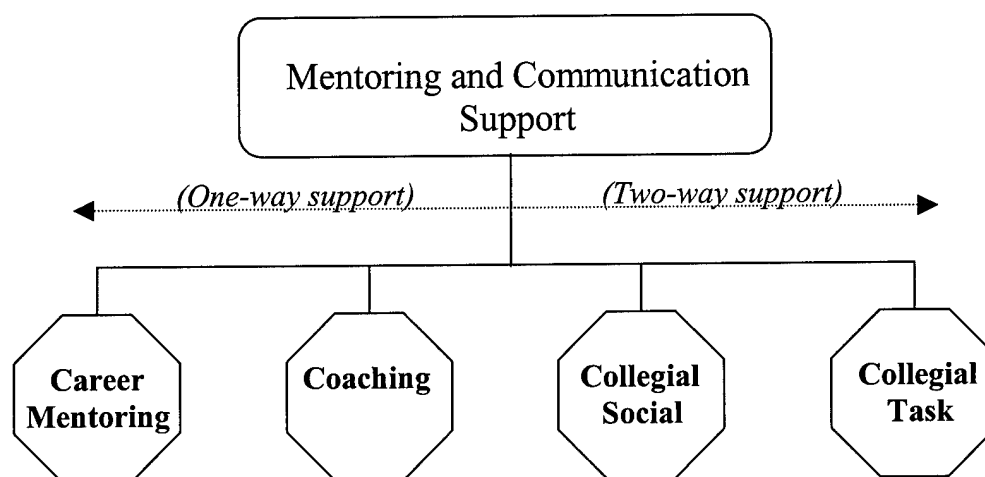
Figure 1. Schematic diagram of a mentoring support continuum. Investigator's
interpretation of the Communication and Mentoring Support continuum developed
by Hill, Bahniuk, Dobos, et al. (1989).

Summary

This literature review described the evolution of mentoring from traditional

(formal) to transitional (informal) and introduced a conceptual framework applicable

to Air Force nurses. Mentoring has evolved from an intense interpersonal

relationship into a less formal, less structured relationship. Traditional mentoring in

the military has been valued, but often unobtainable because of military culture and

organizational structure barriers. A schematic diagram of mentoring support on a continuum provides an alternative to traditional mentoring. There are many examples of mentoring support in Air Force activities, but success may depend on the recognition and communication of mentoring support to Air Force nurses and other members of the Air Force.

CHAPTER III

METHOD

Introduction

Chapter three has described and explained research methodology for this study of mentoring support among Air Force nurses (AFNs). Polit and Hungler (1999) defined method as "the steps, procedures, and strategies for gathering and analyzing the data in a research investigation" (p. 707). Methodology for this study included the research approach and design, descriptions of the population and sample, setting, instrument, the steps and procedures required to conduct the investigation procedure, ethical considerations, and a data analysis plan.

Research Design

Descriptive research, by definition, has explored the relationship of variables to one another without offering a conclusion of cause (Polit & Hungler, 1999; Powers & Knapp, 1995). Descriptive research at its most basic level involves a description of either man-made or naturally occurring phenomena. This type of research has been quantitative in nature and has involved making careful description of phenomena (Gall et al., 1996). Descriptive studies have been primarily aimed at determining *what is*. Justification for descriptive research for this study lies with the idea of first identifying if the phenomena, in this case mentoring, actually exist. This

study utilized a descriptive survey to identify mentoring support received by AFNs. Variables of interest were selected demographic items and types of mentoring support experienced by AFNs. A cross-sectional design was selected because data collected at one point in time from demographically-diverse AFN groups was acceptable for the descriptive nature of this study (Gall et al., 1996). Longitudinal collection of data from the participants would have been costly and difficult to implement due to the nature of Air Force duty assignments.

Study Questions

Characteristics of mentorship, mentors, and protégés and descriptions of mentoring relationships were discovered in the literature (Carey & Campbell, 1994; Haynor, 1994; Hunt & Michael, 1983; Vance & Olson, 1998; Woodrow, 1994; Yoder, 1990), but mentoring support and preferences, as well as information about AFNs was less common. Designing a study to predict evidence-based outcomes was not realistic due to potential loss of subjects over time, project time constraints, and cost-constraints for repeated measurement of perceptions.

Study questions selected were:

1. What types of mentoring support do Air Force nurses report most frequently?

2. Do reported types of mentoring support differ according to demographic characteristics of (a) gender, (b) ethnicity, (c) age, (d) rank, (e) level of education, and (f) number of duty assignments?

Threats to Validity and Generalizability

There were several identified threats to internal validity. The first threat was the cross-sectional design. According to Gall, et al. (1996) cross-sectional data collection could threaten internal validity because the perceptions of AFNs could change over time. Due to the evolving nature of the concept of mentoring, personal beliefs about what constituted mentoring might change, and collecting data at only one point in time would not measure changes in personal beliefs. Therefore, as AFNs accrued age, rank, education, and served at more duty locations there might be an effect on their level of agreement with items on the Mentoring and Communication Support Scale (Downs, 1994; Hill, Bahniuk, Dobos et al., 1989). A second threat connected with cross-sectional design (Gall et al., 1996) has been that, when dealing with opinions and perceptions of experience, the act of collecting them could change them. A third threat for this descriptive study has been content-related evidence (Polit & Hungler, 1999). Neither a nursing sample nor an Air Force sample was used to determine validity of the Mentoring and Communication Support Scale (Downs, 1994). Semantics (Braham, 1998) may have interfered with comprehension of items for this AFN sample.

Threats to external validity of this research were also identified. A major threat was population validity. Job-related tasks and demographic differences between academics (Hill, Bahniuk, Dobos et al., 1989) and managers (Bahniuk et al., 1990) contributed to differences in reported mentoring support in these studies. The possibility of an AFN sample producing findings not previously reported was considered.

As a descriptive study, findings were intended to form a foundation for continued study and so internal validity issues should not have impeded the study of AFNs. The selected research instrument had sufficient reliability and validity data and had been used on at least four different populations (Bahniuk et al., 1990; Bahniuk, Hill, & Darus, 1996; Bainer & Didham, 1994; Hill, Bahniuk, & Dobos, 1989; Hill, Bahniuk, Dobos et al., 1989). There was no reason to believe population validity would jeopardize findings in a sample of AFNs because a precedence of invalidity was not established in four previous studies.

Description of the Population and Sample Selection

The population of interest for this study was active duty nurses in the Air Force Nurse Corps (AFNC). There were 3,960 active duty AFNs at the time of data collection (Air Force Personnel Center, 2000b). AFNs differed from civilian nurses in both gender ratio and required entry-level education (Air Force Personnel Center, 2000b). Male nurses accounted for 29% of the AFNC, and a Bachelors Degree in

Nursing (BSN) was required at the entry level for all AFNs. In contrast, the Division of Nursing, Health Resources and Services Administration (1999) reported that males accounted for 5.4% of Registered Nurses (RNs) working in the United States. Among employed RNs, 58.4% had less than a baccalaureate degree (24% diploma, 34% associate degree); (2) 31.8% had baccalaureate degree; (3) 9.1% had master's degree; and (4) .6% were doctorally-prepared (Health Resources and Services Administration, 1999). These demographic statistics were based upon the National Sample Survey of Registered Nurses, March 1996, and published by the Health Resources and Services Administration (1999).

<u>Sample</u>

The sample ($N = 467$) consisted of active duty AFNs assigned to one of four participating survey sites. The sample of nurses, approximately 12% of the AFNC, was recruited from Andrews Air Force Base, Maryland ($n = 84$); Keesler Air Force Base, Mississippi ($n = 98$); Lackland Air Force Base, Texas ($n = 199$); and Travis Air Force Base, California ($n = 86$). All participants who met the study criteria and completed the survey were included in the study sample.

<u>Eligibility Criteria</u>

This study identified frequency of selected types of mentoring support perceived by AFNs. Demographic variables of gender, ethnicity, age, rank, level of education, and number of duty assignments were evaluated for any trends related to

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mentoring support. To develop an accurate portrayal of AFNs, several inclusion and exclusion criteria were utilized.

Inclusion criteria. To formulate a valid interpretation of results and maximize generalizability of research findings (Polit & Hungler, 1999), a list of criteria providing an accurate representation of all AFNs was created. Perceived mentoring support received while serving as an Air Force nurse was needed to answer the study questions; therefore, criteria ensuring mentoring support was received in an Air Force environment, rather than a non-military setting were needed. Also, criteria ensuring mentoring support was reported by AFNs, rather than non-military nurses was needed. Inclusion criteria for this study consisted of the following:

1. Participants had completed at least one year of active duty military service as an Air Force nurse at the time of data collection.

2. Participants held active duty status in the United States Air Force at the time of data collection.

Exclusion criteria. Exclusion criteria were established to identify attributes that were *not* desired in the population of interest. As previously mentioned, only those mentoring support experienced while serving as an Air Force nurse were of interest. Therefore, exclusion criteria for this study included:

1. All civilian nurses working at Air Force medical treatment facilities.

2. Nurses with less than one year of experience as an active duty Air Force nurse at the time of data collection.

<u>Sample Selection</u>

The sampling method selected for this study was convenience, cluster sampling. This method of probability sampling was an "economical and practical" choice for widely dispersed populations (Polit & Hungler, 1999, p. 288). In an effort to minimize differences in sampling procedures at each survey site, 100% of Air Force nurses were contacted. A sample ($\underline{N}$ = 467) of eligible AFNs completed the survey while assigned to one of four participating survey sites.

<u>Setting</u>. The four largest Air Force medical treatment facilities located in continental United States were selected as data collection sites. They were: (1) Andrews Air Force Base, Maryland; (2) Keesler Air Force Base, Mississippi; (3) Lackland Air Force Base, Texas; and (4) Travis Air Force Base, California. Survey packets were delivered to participants' assigned unit. Time and place in which surveys were completed was not controlled, although the return envelope was addressed for the internal distribution system and not the postal system, which would assure anonymity and encourage nurses to complete the survey at their duty location.

Data Collection Instrument

Survey research, in the form of a self-administered questionnaire, was utilized for this study. This method of data collection offered several distinct

benefits for use with the identified sample. Benefit one was decreased expense in

time and money. Questionnaires have been reported to be the least expensive and

time-consuming method of reaching large groups of people located in geographically

separated regions of the United States (Polit & Hungler, 1999). Benefit two was

anonymity for subjects. Anonymity was an identified factor in candid responses for

some sensitive research topics. Anonymity also provided a higher proportion of

socially unacceptable or *politically incorrect* responses (Polit & Hungler, 1999). A

third benefit of questionnaires has been the absence of interviewer bias, a problem in

studies using interview methods of data collection (Polit & Hungler, 1999). The

Mentoring Survey (see Appendix A) was comprised of a demographic data sheet,

developed by the investigator, and the Mentoring and Communication Support Scale

(Downs, 1994; Hill, Bahniuk, Dobos et al., 1989).

Demographic Information Sheet

Demographic data provided participant information used for identifying

response trends based upon variables of gender, ethnicity, age, rank, level of

education, and number of duty assignments. Gender, ethnicity, and age have been

fairly standard demographic variables used for research (Bahniuk et al., 1990; Hill,

Bahniuk, Dobos et al., 1989; Hunt & Michael, 1983; Polit & Hungler, 1999;

Schocket & Haring-Hidore, 1985; Yoder, 1992). Rank, the military equivalent of

job or position within the organization, and educational preparation have also been

frequently reported demographics (Carey & Campbell, 1994; Fagan & Fagan, 1983; White, 1988; Yoder, 1992). Sorely (1988) discussed the transitory nature of military service and effect on mentoring, consequently the number of duty assignments was selected as the final demographic variable.

Mentoring and Communication Support Scale

The Mentoring and Communication Support Scale assessed a range of mentoring support. This scale has been utilized with populations including: (a) university professors (Hill, Bahniuk, & Dobos, 1989; Hill, Bahniuk, Dobos et al., 1989), (b) managers (Bahniuk et al., 1990), and (c) the general population (Bahniuk et al., 1996). The Mentoring and Communication Support Scale was revised to reflect responses of each subsequent population (Bahniuk et al., 1990; Bahniuk et al., 1996; Hill, Bahniuk, & Dobos, 1989; Hill, Bahniuk, Dobos et al., 1989). S. E. K. Hill (personal communication, November 1, 2000) provided this investigator with the version used for the present study. It was reported that the 15-item scale could be answered in approximately five minutes. Likert scales measured respondents' level of agreement with each of the 15 items. The choices were 5 = strongly agree; 4 = agree; 3 = neither; 2 = disagree; and 1 = strongly disagree. Based upon several factor analyses conducted by Bahniuk, et al. (1990), items in this scale factored into four categories along a continuum. Four items were associated with career mentoring. These items suggested a personal and intense patronage relationship with

someone in a higher position of rank, power, or authority. The second category was

coaching, which contained three items. These coaching items focused on teaching

the rules, goals, and associated politics of the organization or the profession.

Collegial social support, the third category, contained four items that indicated a

reciprocal friendship relationship focused on sharing and exchanging personal

problems and confidences. Four items contained in the fourth category were termed

collegial task support. Items in this category reflected a reciprocal collaborative

relationship focused on sharing and exchanging work assignments and ideas

(Bahniuk et al., 1990; Hill, Bahniuk, Dobos et al., 1989).

Reliability and validity. The Mentoring and Communication Scale (Downs,

1994; Hill, Bahniuk, Dobos et al., 1989) was first used in a study of academics ($\underline{N}$ =

224). Only three factors emerged with this sample, providing Cronbach alphas of

.87, .88, and .75 for paternalistic mentoring, collegial task mentoring, and collegial

social mentoring respectively. A study of managers ($\underline{N}$ = 258) provided Cronbach

alphas of .89, .85, .75, .75 for career mentoring, coaching, collegial social, and

collegial task support respectively (Bahniuk et al., 1990). Values between .70 and

+1.0 were preferred because they reflected greater internal consistency. Values

reported by Hill, Bahniuk, Dobos, et al. (1989) and Bahniuk, et al. (1990)

represented acceptable reliability and indicated the instrument measured intended

behaviors (Polit & Hungler, 1998).

Limited criterion-related validity was reported for the Mentoring and

Communication Support Scale (Hill, Bahniuk, Dobos et al., 1989). Mentor/protégé

and collegial social dimensions (r = .16 and r = .14 respectively) were positively

related to satisfaction with promotions. Collegial task dimension was positively

related to the academic success indicators of income (r = .20), and publication rates

(r = .17) (Hill, Bahniuk, & Dobos, 1989). Construct validity was established through

a series of research studies (Bahniuk et al., 1990; Bahniuk et al., 1996; Hill, Bahniuk,

& Dobos, 1989; Hill, Bahniuk, Dobos et al., 1989) comparing three different sample

groups: academics (N = 224), managers (N = 258) and the general population (N =

418). Results of academics (N = 224) factored into three types of mentoring support:

(1) career mentoring, (2) collegial social support, and (3) collegial task support (Hill,

Bahniuk, & Dobos, 1989; Hill, Bahniuk, Dobos et al., 1989). In the study of

managers (N = 258), results factored into four types of mentoring support (Bahniuk

et al., 1990). Four factors utilized for this study were: (1) career mentoring, (2)

coaching, (3) collegial social support, and (4) collegial task support (Bahniuk et al.,

1990; Downs, 1994). These four factors were included in the most recent version of

the scale (Downs, 1994; S. E. K. Hill, personal communication, November 1, 2000).

Coaching, which had previously been imbedded in the career mentoring factor,

emerged as a separate factor (Bahniuk et al., 1990; S. E. K. Hill, personal

communication, November 1, 2000). General population (N = 418) results factored

into three factors: (1) career mentoring, (2) coaching, and (3) peer support. Collegial

social and task support collapsed into a single factor, labeled peer support (Bahniuk

et al., 1996). The current scale had four factors, 92% variance, and interfactor

correlations between .47 and .54 for satisfaction with job, promotions, and fast-track

mobility (Bahniuk et al., 1990; Downs, 1994).

<center>Data Collection Procedures</center>

Review of research studies with military nurse participants (Hutchison et al.,

2001; Yoder, 1992) guided development of data collection procedures utilized in this

study. The purpose of recording steps of data collection was to document processes

to clarify the implementation of this study. Clearly communicated procedures would

allow others to validate or replicate a study or make procedural revisions to improve

future studies (Polit & Hungler, 1999).

<u>Step One</u>

The investigator initiated contact with each facility by telephone to obtain a

point of contact within Nursing Services. Three of four sites directed the

investigator to the Clinical Investigation Facility of their respective facilities where a

nurse researcher provided necessary procedural information. The fourth site used a

senior nurse in the Education and Training department as a point of contact. E-mail

among facility points of contact was the primary communication method throughout

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this study. Other communication methods were telephone, fax, and United States Postal Service.

Step Two

Contact was initiated via e-mail with the nursing division of the Air Force Surgeon General's office. The purpose of this contact was to notify AFNC senior leaders of the proposed study and its benefits to the Air Force, and insure that other Air Force agencies were notified appropriately.

Step Three

Upon receiving access permission from each medical facility, written permission was requested from Headquarters, Air Force Personnel Center (AFPC), Randolph Air Force Base, Texas to survey United States Air Force personnel (see Appendix B). Permission was granted via e-mail and a survey control number was assigned (see Appendix B).

Step Four

A proposal for this research study was submitted to the University of Oklahoma Health Sciences Center (OUHSC) Institutional Review Board for expedited status review and approval. After approval from the OUHSC Institutional Review Board (see Appendix C), a facility-specific format was used to submit this research proposal to Institutional Review Boards at each host facility for expedited status review and approval.

Step Five

To ensure confidentiality of subjects, this investigator was not given access to names of nurses assigned to participating survey sites. Survey packets were prepared for each facility based upon estimated numbers of assigned nursing personnel supplied by points of contact. To expedite delivery and reduce mailing expense, survey packets were placed in shipping cartons and mailed to each facility as one package. Each survey packet contained a cover letter (see Appendix D), survey instrument (see Appendix A), and a plain legal sized envelope addressed to the facility point of contact. An Air Force Survey Control Number (SCN) was placed on each document included in the survey packet. The SCN indicated approval from AFPC to survey Air Force personnel. The same SCN appeared on each document for every survey participant. A total of 1175 survey packets were prepared for mailing. When survey packets arrived, facility contacts attached an address label for each assigned nurse, and managed the distribution and collection of surveys.

Step Six

Completed surveys were packaged and mailed to this investigator. For each package of surveys, the investigator recorded facility of origin for surveys before discarding packaging. Incomplete surveys and surveys from ineligible respondents were separated and not used in the data analysis. This procedure was followed for

each package of returned survey materials. All data were secured in an enclosed container in the investigator's home.

<u>Step Seven</u>

Upon completion of the data collection, data analysis was done and data results were reported as group data only. Group results were provided to the nursing division of the Air Force Surgeon General's office, participating survey sites, and, upon request were available to nurses participating in the study.

Ethical Safeguards and General Considerations

Consent was assumed, as noted in the cover letter, with return of the completed surveys. Voluntary participation was clearly mentioned in the cover letter. Purposes of the study and requirements for participation were also discussed in the cover letter. Since study results were analyzed and reported as group data only, no personal identifiers were included in any of the analysis or reports. All survey documents and all packaging was destroyed after surveys were retrieved. All data related to this study were kept in an enclosed container secured in the investigator's home and will be maintained according to mandated procedures.

Data Analysis

Polit and Hungler (1999) described data analysis as "systematic organization and synthesis of research data" (p. 699). This study's data analysis plan was guided by its study questions. Descriptive statistics, which translated numerical data into

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meaningful, descriptive statements (Gall et al., 1996; Polit & Hungler, 1999) and

inferential statistics, have been used to make inferences and draw conclusions (Polit

& Hungler, 1999). Descriptive and inferential statistics were used to analyze the

data for this study of perceived mentoring support.

The Mentoring and Communication Support Scale, a 15-item, Likert-style

questionnaire, was utilized to measure the perception of types of mentoring support.

Four types of mentoring support were measured: (1) career mentoring, questions one

through four; (2) coaching, questions five through seven; (3) collegial social support,

questions eight through eleven; and (4) collegial task support, questions twelve

through fifteen. A 5-point Likert type scale was used to measure participants'

perceived degree of agreement or disagreement with each of the 15 survey items.

Scores of *4* or *5* indicated agreement with what the participants had perceived as

mentoring support within the 12 months prior to this study. Scores of *1* or *2*

indicated disagreement with what participants had not perceived as mentoring

support within the 12 months prior to this study. A score of *3* indicated that

participants neither agreed nor disagreed with the statement describing a particular

mentoring support.

Study Question 1. What types of mentoring support do Air Force nurses

report most frequently?

Scores obtained from the Mentoring and Communication Support Scale were used to identify which type mentoring support participants perceived most frequently. A response *4* or *5* to any question indicated the respondent perceived experiencing that behavior within the past 12 months. Results were presented in a frequency table. Frequency distribution tables were constructed to examine reported mentoring support for the total sample and for each survey site (see Appendix E).

Study Question 2. Do reported types of mentoring support differ according to demographic characteristics of (a) gender, (b) ethnicity, (c) age, (d) rank, (e) level of education, and (f) number of duty assignments?

Participants were divided into groups defined by each demographic variable:

1. Mean scores for each type of mentoring support were calculated for groups defined by gender. Two groups were delineated as (1) male, and (2) female. Response frequencies for each group were described, but inferential statistics were not applied because groups were extremely unequal in size.

2. Mean scores for each type of mentoring support were calculated for groups defined by Air Force ethnicity categories. These categories were: (1) American Indian/Alaskan, (2) Black (Non-Hispanic), (3) White (Non-Hispanic), (4) Asian/Pacific Islander, (5) Hispanic, and (6) Other (Air Force Personnel Center, 2000b). For each of the six groups, response frequencies of each type of perceived mentoring support were calculated. Inferential statistical analysis was not done due

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to the extremely unequal group sizes. This was done to avoid any inferences that were not true because of the group sizes.

3. Mean scores for each type of mentoring support were calculated for age groups defined by age. These five groups were: (1) 21 – 26, (2) 27 – 32, (3) 33 – 38, (4) 39 – 44, and (5) 45+. For each of the five groups, response frequencies for each type of mentoring support were calculated. Inferential statistical analysis was not done due to the extremely unequal group sizes. This was done to avoid any inferences that were not true because of the group sizes.

4. Mean scores for each type of mentoring support were calculated for groups defined by current Air Force rank. These four groups were: (1) First and Second Lieutenants, (2) Captains, (3) Majors, and (4) Colonels and Lieutenant Colonels. For each of the four groups, response frequencies of each type of mentoring support were calculated. Inferential statistics were not applied due to large disparities in group sizes.

5. Mean scores for each type of mentoring support were calculated for groups defined by highest level of education. The three groups were: (1) Baccalaureate Degree, (2) Masters Degree, and (3) Doctorate. MAs and MBAs ($n = 3$) were placed in the Masters Degree category because the level of education was of more interest than the type of degree. The Doctorate group ($n = 4$) was excluded from statistical analysis because of its size. A 2-tailed independent t-Test was used

to compare mean scores of the baccalaureate and masters prepared groups for each type of mentoring support.

6. Mean scores for each type of mentoring support were calculated for groups defined by number of duty assignments. The three groups were: (1) $1 - 3$; (2) $4 - 6$; (3) 7+. Due to the small size of the 11+ group ($\underline{n} = 5$), it was merged with the $7 - 10$ group and renamed 7+. For each of the three groups, means of each type of mentoring support were calculated and compared by Analysis of Variance (ANOVA).

Summary

The Air Force Nurse Corps has approximately 4000 members. Four medical facilities located in the continental United States served as survey sites and provided the sample population. Eligibility criteria restricted the number of participants available at each facility while defining the target population of active duty AFNs with at least one year of active duty experience. Obtaining approval from each survey site, meeting the requirements of the Air Force, and submitting to five Institutional Review Boards demanded persistence, time, and frequent follow-up. Survey materials were prepared and packaged individually, but mailed as one package to each facility. Survey materials included a cover letter, the research instrument, and a plain legal-sized envelope. Descriptive and inferential statistics were utilized in the data analysis and to answer the study questions. Large

differences in some demographic variables prevented inferential statistical analysis

of gender, ethnicity, age, and rank.

CHAPTER IV

ANALYSIS OF DATA

Introduction

Procedures used to organize data and answer research questions have been

reviewed in this chapter. Study questions focused on mentoring support experienced

by Air Force nurses and relationships between reported mentoring support and

selected demographic variables. Information collected could enhance nurse-

mentoring programs in the Air Force by identifying perceptions of mentoring support

experienced by Air Force nurses. Additionally, members of Air Force and non-

military health care organizations could benefit from this information because

perceived mentoring support may be associated with participant reactions to

organizational support and structure, the values of Generation X employees, or both.

Results from this study could also be applied to mentoring in nursing on a more

global perspective.

Description of the Sample

Survey packets were distributed to 1000 Air Force nurses and 501 were

returned: a response rate of 50%. Percentage of returned surveys from the four sites

were: (1) site one had response rate of 47% (94 surveys out of 200 were returned);

(2) site two had response rate of 47% (104 surveys out of 220 were returned); (3) site

three had a response rate of 60% (210 surveys out of 350 were returned); and (4) site

four had a response rate of 39% (90 surveys out of 230 were returned). Eighteen

surveys returned did not meet the eligibility criteria and 16 were incomplete,

therefore these surveys were not used in the data analysis. A total of 467 usable

surveys were received and utilized in the data analysis.

The typical participant in this study was a 33 to 44 year old bachelors-

prepared Non-Hispanic White female Captain assigned to 3 or less duty assignments.

Overall, the sample ($\underline{N}$ = 467, 12% of the total population of the AFNC) was

demographically similar to the total AFNC. Male participants ($\underline{n}$=118) comprised

25% of the study's sample, whereas males comprise 29% of the total AFNC. The

sample was ethnically diverse, with an increased proportion of Asian/Pacific Islander

(4.3%) and Hispanic (6.4%) participants and a decreased proportion of Non-Hispanic

White participants (74.7%) compared to the total AFNC (2.5%, 1.6%, and 80%

respectively). Participants' age and rank were proportionately similar to the total

AFNC, with a slight decrease in 21 to 26 year olds (6.2% compared to 7.2%) and

Lieutenants (16.9% of the sample compared to 18.7% of the AFNC). Percentage of

participants with a masters degree (37.9%) was higher than the total AFNC (33%);

and finally, only 10% of participants had served at seven 7 or more assignments.

Demographic statistics of participants, Air Force Nurse Corps (AFNC), United

States Air Force (USAF), and United States (US) Census are summarized and presented in Table 2.

Results

Data analysis was done utilizing the SPSS Graduate Pack 10.0 software. Inferential and descriptive statistics were used to answer the study questions. Level of significance for inferential statistics was set at 0.05. Reliability coefficients alpha, also known as Chronbach's alpha, were 0.90, 0.86, 0.88, and 0.85 respectively for career mentoring, coaching, collegial social, and collegial task support with this sample of Air Force nurses. Cronbach's alpha values normally ranged between 0.0 and +1.0, with values between .70 and +1.0 reflecting greater internal consistency (Polit & Hungler, 1999). Reliability ranged from 0.87 to .93 at survey site one (n=84), 0.78 to 0.89 at survey site two (n=98), 0.84 to 0.91 at survey site three (n=199), and 0.88 to 0.91 at survey site four (n=86). The Mentoring and Communication Support Scale (Downs, 1994; Hill, Bahniuk, Dobos et al., 1989); therefore, demonstrated internal consistency sufficient for group-level comparisons (Polit & Hungler, 1999) and was considered to be reliable for use with Air Force nurses.

Table 2

Summary Demographic Statistics of Participants, AFNC, USAF, US Population

DATA	AFNs (N=467)	% of sample	% of AFNC	% of USAF	% of US Census
GENDER:					
Male	118	25.30%	29%	83%	49%
Female	349	74.70%	71%	17%	51%
ETHNICITY:					
American Indian/Alaskan	3	0.60%	0.40%	0.40%	0.70%
Asian/Pacific Islander	20	4.30%	2.50%	2.20%	3.80%
Non-Hispanic Black	54	11.60%	12.60%	6.50%	12.20%
Hispanic	30	6.40%	1.60%	2.30%	11.90%
Non-Hispanic White	349	74.70%	80%	85.10%	71.30%
Other	11	2.40%	2.90%	3.50%	
AGE:					
< 21				0.40%	
21 - 26	29	6.20%	7.20%	16.50%	
27 - 32	103	22.10%	19.40%	26.60%	
33 - 38	121	25.90%	27.70%	25%	
39 - 44	129	27.60%	28.10%	19.70%	
45+	85	18.20%	17.50%	11.80%	
RANK:					
1st/2d Lieutenant	79	16.90%	18.70%	23.40%	
Captain	243	52%	51%	33.80%	
Major	98	21%	21%	22.50%	
Lt Col/Colonel	47	10.10%	9.40%	20.30%	

Note. Demographic data maintained by AFPC (2000a). US national
estimates maintained by US Census Bureau (2000a, 2000b).
Percentage of USAF reflects only officers.

Table 2 (cont.)

Summary Demographic Statistics of Participants, AFNC, USAF, US Population

DATA	AFNs (N=467)	% of sample	% of AFNC	% of USAF	% of US Census
LEVEL OF EDUCATION:					
Baccalaureate	286	61.20%	64.90%	44%	
Masters	177	37.90%	33%	43%	
Doctorate	4	0.90%	0.50%	1.40%	
Professional			0.10%	9.00%	
Unknown			1.50%	2.60%	
# OF DUTY ASSIGNMENTS:					
1 to 3	272	58.20%			
4 to 6	147	31.50%			
7 to 10	43	9.20%			
11 plus	5	1.10%			

Note. Demographic data maintained by AFPC (2000a).

Percent of USAF reflects Air Force officers only.

Response to Study Question 1

Study Question 1. What type of mentoring support do Air Force nurses report most frequently? Scores obtained from the Mentoring and Communication Support Scale (Downs, 1994; Hill, Bahniuk, Dobos et al., 1989) measured participants' reported perceived experience with four types of mentoring support. Participants reported experiencing collegial task support (72%) more frequently than collegial social support (56%), career mentoring (43%) or coaching (33%). Results of reported perceived experience with the types of mentoring support are presented

as a frequency graph in Figure 2. A frequency graph of reported perceived

experience with the types of mentoring support by survey site is presented in Figure

3. Response frequency for each of the 15 mentoring support items for the total

sample is presented in Table 3 (see Appendix E). Response frequencies for each of

the 15 mentoring support items by survey site are presented in Table 4 to 7 (see

Appendix E).
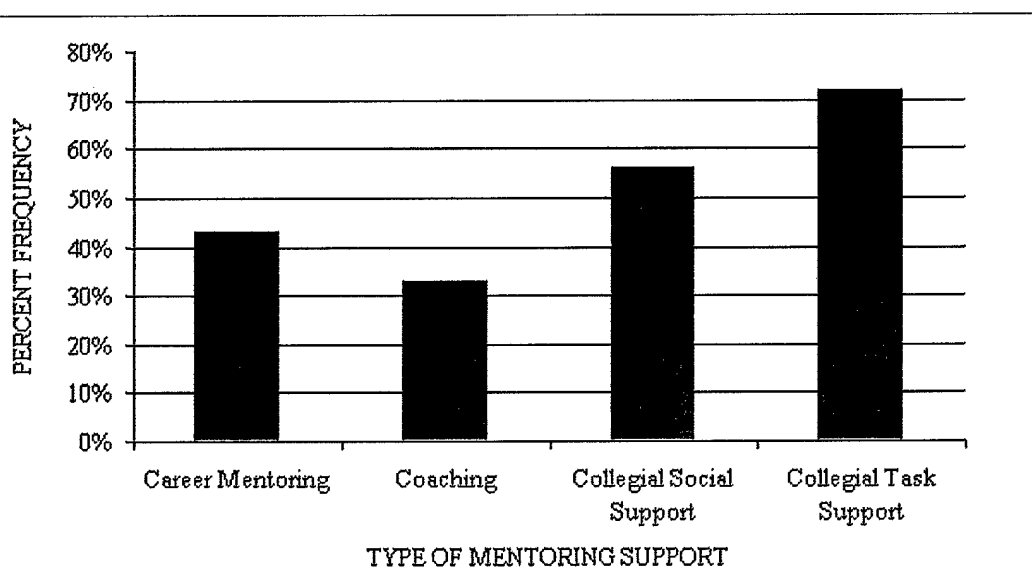
Figure 2. Reported perceived experience with the four types of mentoring support.
Collegial task support perceived more frequently (72%) than collegial social support
(56%), career mentoring (43%), or coaching (33%) with this sample of Air Force nurses.
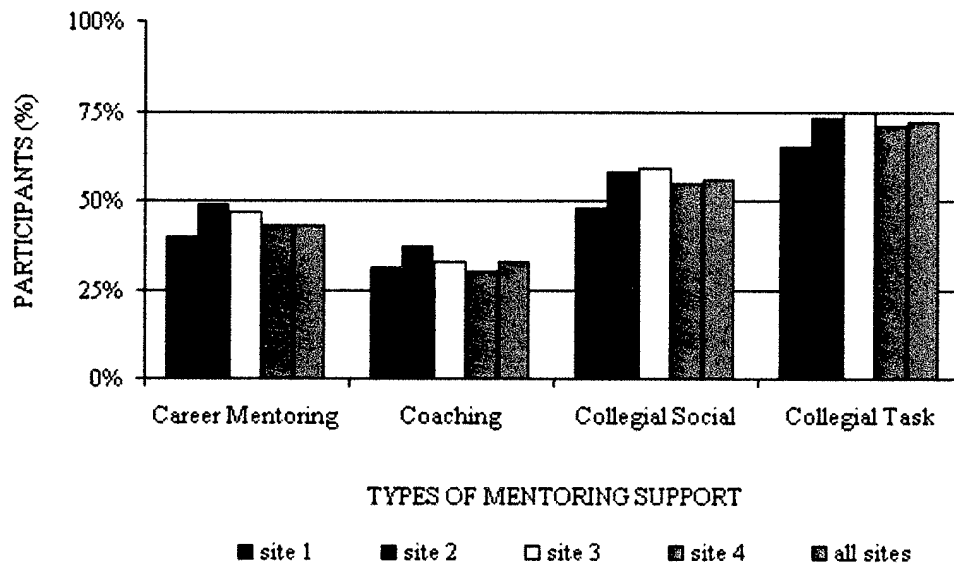
Figure 3. Percent frequency and types of mentoring support reported at survey sites. Collegial task support was the most frequently reported type of mentoring support by participants (65 - 75%). Site 2 had the highest % of participants reporting career mentoring (49%) and coaching (37%); site 3 had the highest % of participants reporting collegial social (59%) and collegial task support (75%). Site 1 had the lowest % of participants reporting career mentoring (40%), collegial social (48%), and collegial task support (65%); site 4 had the lowest % of participants reporting coaching (30%).

Response to Study Question 2

Do reported types of mentoring support differ according to demographic characteristics of (a) gender, (b) ethnicity, (c) age, (d) rank, (e) level of education, and (f) number of duty assignments? Due to substantial differences in group size, only education and duty assignments were analyzed for differences. Additionally,

these two variables could potentially be affected by interventions designed to increase the perception of mentoring support. Descriptive data for gender, age, ethnicity and rank are presented in Table 8 (see Appendix E).

<u>Data Analysis Education.</u>

Mean scores for each type of mentoring support were calculated for groups that were listed on the demographic information sheet: These groups were defined by highest level of education, and were: (1) Baccalaureate Degree ($\underline{n}$=286, 61.2%), (2) Masters Degree ($\underline{n}$=177, 37.9%), and (3) Doctorate ($\underline{n}$=4, 0.9%). MAs and MBAs ($\underline{n}$ = 3) were grouped with Masters Degree because level of education was of more interest than type of degree. The Doctorate group ($\underline{n}$ = 4) was excluded from statistical analysis because of its size.

Differences in perceived mentoring support were analyzed for baccalaureate and masters prepared groups using an independent 2-tailed t-Test. Participants with a masters degree reported higher mean scores for each of the four types of mentoring support. Career mentoring was statistically significant with differences between groups ($\underline{t}$ = -4.86, $\underline{p}$ = .000). Coaching was statistically significant with differences between groups ($\underline{t}$ = -3.096, $\underline{p}$ = .002). Collegial task support was statistically significant with differences between groups ($\underline{t}$ = -2.819, $\underline{p}$ = .005). Level of education produced statistically significant differences in career mentoring, coaching, and collegial task support with this sample. Independent 2-tailed t-Tests

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are presented for baccalaureate and masters prepared groups and types of reported

perceived mentoring support are presented in Table 9 to 12.

Table 9
Independent 2-tailed t-Test for Baccalaureate and Masters Groups:
Career Mentoring

Test	n	Mean	Std. Deviation	Std. Error	t	df	p
Baccalaureate	286	11.88	4.31	0.25			
					-4.86	356.91	.000*
Masters	177	13.95	4.56	0.34			

Note. *p<.05.

Table 10
Independent 2-tailed t-Test for Baccalaureate and Masters Groups:
Coaching.

Test	n	Mean	Std. Deviation	Std. Error	t	df	p
Baccalaureate	286	8.09	2.92	0.17			
					-3.096	318.103	.002*
Masters	177	9.08	3.57	0.27			

Note. *p<.05.

Table 11

Independent 2-tailed t-Test for Baccalaureate and Masters Groups:

Collegial Social Support.

Test	n	Mean	Std. Deviation	Std. Error	t	df	p
Baccalaureate	286	13.93	3.44	0.2			
					-0.482	362.966	0.63
Masters	177	14.1	3.57	0.27			

Note. *p<.05.

Table 12

Independent 2-tailed t-test for Baccalaureate and Masters Groups:

Collegial Task Support.

Test	n	Mean	Std. Deviation	Std. Error	t	df	p
Baccalaureate	286	15.08	3.08	0.18			
					-2.819	358.3	.005*
Masters	177	15.94	3.24	0.24			

Note. *p<.05.

Data Analysis Duty Assignments

Mean scores for each type of mentoring support were calculated for groups of participants defined by number of duty assignments. Groups were: (1) 1 – 3 assignments ($\underline{n}$=272, 58.2%); (2) 4 – 6 assignments ($\underline{n}$=147, 31.5%); and (3) 7 or more assignments ($\underline{n}$=48, 10.3%). Participants with 11 or more assignments ($\underline{n}$=5) were grouped with participants reporting 7 – 10 assignments, and the group was

renamed 7+. For each group, means of each type of mentoring support were compared using Analysis of Variance (ANOVA).

ANOVA was used to determine whether or not the number of duty assignments produced differences in perceived mentoring support. A basic assumption of parametric measures like ANOVA has been an equal distribution of responses, also known as the normal curve (Polit & Hungler, 1999). In the absence of equal distribution, there has been the potential for committing a Type I error: concluding there was a relationship when there was not. Type I errors occur when the null hypothesis is rejected when it was true (Polit & Hungler, 1999; Powers & Knapp, 1995). Although there was unequal distribution, the standard deviation was less than the mean, so ANOVA was used (D. Wallace, personal communication, March 25, 2001).

Participants assigned to 3 or less duty locations reported lower mean scores for career mentoring (M = 11.90, SD = 4.29), coaching (M = 8.19, SD = 2.92), and collegial task support (M = 15.16, SD = 2.91) than participants assigned at 4 to 6 and 7 or more duty locations. Participants with 3 or less assignments had a collegial social support mean score of 15.16 (2.91). Mean scores for participants assigned at 4 to 6 duty locations were: career mentoring (M = 13.86, SD = 4.60), coaching (M = 8.96, SD = 3.50), collegial social support (M = 13.79, SD = 3.65), and collegial task support (M = 15.54, SD = 3.56). Mean scores for participant assigned at 7 or more

duty locations were: career mentoring (M = 13.85, SD = 4.76), coaching (M = 8.65,

SD = 3.71), collegial social support (M = 14.75, SD = 2.98), and collegial task

support (M = 16.77, SD = 3.07). Number of duty assignments produced statistically

significant differences between groups for career mentoring F (2, 464) = 11.037,

p = .000 and collegial task support F (2, 464) = 5.458, p = .005. ANOVAs for

assignment groups reported types of perceived mentoring support are presented in

Table 13 to 16.

Table 13
Analysis of Variance for Assignment Groups: Career Mentoring.

Source	SS	df	MS	F	p
Between Groups	435.039	2	217.519	11.037	.000*
Within Groups	9144.773	464	19.709		

Note. *p<.05

Table 14
Analysis of Variance for Assignment Groups: Coaching.

Source	SS	df	MS	F	p
Between Groups	57.188	2	28.594	2.795	0.062
Within Groups	4747.407	464	10.231		

Note. *p<.05

Table 15
Analysis of Variance for Assignment Groups: Collegial Social Support.

Source	SS	df	MS	F	p
Between Groups	33.594	2	16.797	1.384	0.251
Within Groups	5629.404	464	12.132		

Note. *p<.05

Table 16
Analysis of Variance for Assignment Groups: Collegial Task Support.

Source	SS	df	MS	F	p
Between Groups	108.021	2	54.01	5.458	.005*
Within Groups	4591.226	464	9.895		

Note. *p<.05

The Scheffe post hoc test was performed to analyze multiple comparisons between groups. Career mentoring $\underline{F}$ (2, 464) = 11.037, $\underline{p}$ = .000 was statistically significant with differences between groups when mean scores of participants with 3 or less assignments were compared to participants with 4 to 6 assignments ($\underline{p}$ = .000) and 7 or more assignments ($\underline{p}$ =.020). Collegial task support $\underline{F}$ (2, 464) = 5.458,

$\underline{p} = .005$ was statistically significant with differences between groups when mean scores of participants with 3 or less assignments were compared to participants with 7 or more assignments ($\underline{p} = .005$).

<u>Unsolicited Comments</u>

There were a small number of comments written on completed surveys and via email. Responses were recorded and categorized by the investigator into three themes to clarify and organize these responses. Investigator-named themes were: perceived lack of quality mentors and mentoring; perceived environmental influences on mentoring; and interpretations of the term associate. No qualitative analysis was done on this data. The unsolicited comments are simply presented as points of interest.

<u>Perceived lack of quality mentors and mentoring</u>. One participant observed that "most senior ranking nurses are not prepared themselves [because of the] constant flux in the military with policies and staffing, and the fact that patients are critically sicker today". This participant continued, "Rapid changes in patient complexity [have] left senior ranking nurses unaware of the realities of direct patient care faced by many staff nurses". Other comments in this theme, as interpreted by this investigator, suggested that loss of the traditional Chief Nurse role was related to loss of nurse mentors, and that mentors weren't needed after a certain career point.

<u>Perceived environmental influences on mentoring</u>. Night shift was considered by one participant as more conducive to collegial social mentoring. One participant who had worked for two different supervisors in the past 12 months said that mentoring support experiences varied between supervisors. Participants also offered opinions about differences in mentoring at different Air Force medical centers.

<u>Interpretations of the term associate</u>. All collegial support items included in the Mentoring and Communication Support Scale (Downs, 1994; Hill, Bahniuk, Dobos et al., 1989) contained the word associate. More participants commented on this term than any other aspect of the study. There were requests for clarification and queries about who was considered an associate. Specifically, whether or not associates could be considered friends, co-workers, supervisors, individuals of a different rank (than participant), or non-nurses. Comments about poor word choice and inappropriateness of associates as mentors were also recorded.

<center>Support for Conceptual Framework</center>

The conceptual framework utilized for this study (see Figure 1) described mentoring support along a continuum. Results were consistent with the framework's four independent, but related, types of mentoring support. Participants did not rely on one type of mentoring support exclusively (see Figure 2), which supported use of a continuum. Collegial mentoring support was reported more frequently than career

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mentoring or coaching, but conclusions as to why this occurred could not be made in this descriptive study. Perhaps the four types of mentoring support were not perceived to be equitable with this sample, or perhaps only the availability of each varied. Regardless, results of this study supported a framework of four types of mentoring support and this investigator believes that the framework was an appropriate guide for this study.

Summary

Four hundred sixty-seven of 1000 Air Force nurses completed and returned the Mentoring and Communication Support Scale and demographic data sheet for a response rate of 50%. Demographic characteristics of this sample were similar to the total AFNC.

Participants reported experiencing collegial task support most frequently, followed by collegial social support, career mentoring, and coaching. Gender, ethnicity, age, and rank were analyzed using descriptive statistics only. Masters-prepared participants perceived more career mentoring, coaching, and collegial task support than participants with baccalaureate degrees. Participants assigned to 3 or less duty locations perceived less career mentoring and collegial task support than participants assigned at 4 to 6 and 7 or more duty locations.

CHAPTER V

SUMMARY, CONCLUSIONS, DISCUSSION, AND IMPLICATIONS

Introduction

Current process of mentoring is clearly different than just twenty years ago. Most notable, is acceptance of mentoring within peer groups. Previous definitions of mentoring evolved from structured, long-lasting relationships between people of different rank or sphere of influence (Levinson et al., 1978; Vance, 1982) into a combination of informal mentoring support exchanged for mutual benefit. Findings of this descriptive study have implications for mentoring programs in the Air Force as well as non-military health care organizations.

Summary

The purpose of this research was to identify types of perceived mentoring support experienced by Air Force Nurses. The study questions answered were: (1) what type of mentoring support do Air Force nurses report most frequently? And (2) do the types of reported mentoring support differ according to demographic characteristics of (a) gender, (b) ethnicity, (c) age, (d) rank, (e) level of education, and (f) number of duty assignments?

The design used for this descriptive study was a cross-sectional convenience cluster sampling of Air Force nurses assigned to one of four participating survey

sites. The Mentoring and Communication Support Scale (Downs, 1994; Hill, Bahniuk, Dobos et al., 1989) was utilized as the data collection instrument. The 15-item instrument was an anonymous, pencil and paper survey requiring 5 to 10 minutes to complete. Four types of mentoring support were measured: (1) career mentoring, (2) coaching, (3) collegial social support, and (4) collegial task support. Each type was scored independently using 5-point Likert scales.

Participants ($\underline{N}$ = 467) were Air Force nurses assigned to Andrews Air Force Base, Maryland; Keesler Air Force Base, Mississippi; Lackland Air Force Base, Texas; and Travis Air Force Base, California. Each participant was a registered nurse with at least 12 months of active duty experience as an Air Force nurse. Overall, collegial task support (72%) and collegial social support (56%) were experienced more frequently than career mentoring (43%) or coaching (33%). Gender, ethnicity, age, and rank were analyzed using descriptive statistics only. Participants' level of education and number of duty assignments produced differences in perceived mentoring. Masters-prepared participants perceived more mentoring support than participants with baccalaureate degrees. Participants assigned to less than 3 duty assignments perceived less mentoring than participants assigned to 4 or more duty locations.

Conclusions

Collegial support was experienced by more than half of participants, while career mentoring and coaching were experienced by less than half of participants in the 12 months prior to this study. Career mentoring, which was most like traditional mentoring, was perceived by just 43% of participants; while collegial social and task support, similar to peer mentoring, were experienced by 56% and 72% respectively. Coaching was perceived by only 33% of participants. Collectively, Air Force nurses received mentoring support from colleagues more frequently than someone of higher rank. This finding differs from the guidelines for the Air Force Mentoring Program, which identify supervisors as primary mentors (Department of the Air Force, 2000a). This study was not designed to test cause and effect relationships; therefore, it is unclear if collegial mentoring support was preferred over career/traditional mentoring, or that it was just more available. It should be noted that Air Force nurses experienced collegial support most frequently across all demographic variables.

Characteristics of collegial relationships have been reported to include mutual goals for client care and collaborative efforts to foster professional growth in working environments (Minnesota Nurses Association [MNA], 1999). According to MNA (1999), maintaining professional collegiality was a shared responsibility among nurses. Collegial relationships were important because they promoted

nursing autonomy and preserved values inherent to nursing: respect, ethical practice, caring, and competence (MNA, 1999).

Among participants with masters and baccalaureate degrees, there was no statistical difference found to exist in perceptions of collegial social support, and both groups perceived this type more frequently than career mentoring or coaching. Participants with a masters degree perceived more career mentoring, coaching, and collegial task support than those with baccalaureate degrees. Findings may indicate that participants with advanced degrees focused mentoring support on career issues because they were at a higher stage of professional development. Although these results do not provide mentoring support outcomes, findings may also indicate that participants with masters degrees pursued graduate education because of mentoring support received as a baccalaureate nurse.

Participants assigned to four or more duty locations perceived more career mentoring and collegial task support than those assigned to less than four duty locations. One possible explanation for this finding is that participants may have relocated because of career mentoring guidance. However, results do not conclusively link more mentoring support to the number of duty assignments because perceived mentoring support was also higher in groups with older participants, senior-ranking participants, and participants with higher levels of education. Since each of these variables was dependent on time, results may indicate

that experience was an indicator of perceived mentoring support. The only definitive finding supported by this research was that serving at four or more duty locations did not limit available mentoring opportunities with this sample. This finding may or may not contradict statements identifying frequent moves as a barrier to effective mentoring (Sorely, 1988), because the length of time at each duty assignment was not measured.

Limitations

Although the Institutional Review Board (IRB) at University of Oklahoma Health Sciences Center approved this study, each survey site required local IRB approval. Survey packets were prepared and mailed at the same time, but duration of data collection varied between survey sites because of differences in IRB approval processes. Response rate at the site with the shortest data collection period (three weeks with a response rate of 39%, compared to 10 weeks with a response rate of 60%) was noticeably lower than other sites, although an overall response rate of 50% was achieved.

Failure to provide a mentoring definition may have caused confusion for some participants who were not familiar with alternative forms of mentoring like peer mentoring. The possibility exists that some participants answered survey questions based upon their perceptions of mentoring in general rather than perceptions of each mentoring support statement. Comments offered by participants

indicated that the term associate was interpreted differently among participants, supporting the possibility that peer mentoring as an alternative to traditional mentoring may not have been addressed by Air Force leaders.

Findings of this study reflected only the Air Force nurses who completed the Mentoring and Communication Support Scale (Downs, 1995; Hill, Bahniuk, Dobos et al., 1989; see Appendix A) in its entirety and returned it as directed. This sample was limited to nurses assigned to large medical treatment facilities. Air Force nurses assigned to medium-sized or small facilities may experience or perceive mentoring support differently.

Recommendations

Mentoring programs in health care organizations should be grounded in supporting research and literature, rather than copies of mentoring programs in business and industry. Utilizing a mentoring framework would make the process of design and implementation easier for individuals within the organization to understand and interpret, especially if the framework used familiar terminology and workplace settings. This investigator has developed a schematic diagram of contemporary mentoring in health care organizations so that awareness of what constitutes present day mentoring support can be increased. This proposed schematic diagram is the culmination of the investigator's experience as an Air Force nurse, results of this study, literature review, and discussions with interprofessional

peers about how mentoring is utilized in different situations, environments, and with different organizational demands.

Organizational Structure of Contemporary Mentoring

The first phase of Contemporary Mentoring, organizational structure, is presented in Figure 4. The triangle represents nursing personnel. The base of the triangle contains novice (in the sense of new graduates, new position, or new job within the organization) nurses and the apex contains senior level nurses. The oval represents the organization; the dashed oval line signifies free exchange of organizational support between organization and its personnel. Availability of organizational support is based upon factors such as size, mission, structure, budget, organizational politics, as well as organizational priorities like training, continued education, and cultural awareness. The oval also contains organizational resources like mentoring programs.

Traditional Mentoring Flow

The second phase of Contemporary Mentoring, traditional flow, is presented in Figure 5. Mentors are located in the apex and protégés in the base of the triangle. There is a single thin solid line with an arrow pointed towards the protégé. This represents a non-reciprocated professional mentoring relationship. A second arrow, with intermittent hash marks, represents protégés' assent to the apex. The curved lines connecting mentor and protégé are dashed to represent moderate flexibility in

formal mentoring relationships. The arrow originating from this dashed line points toward the oval and represents mentoring relationship outcomes, which can be positive or negative.

Figure 4. Contemporary Mentoring Schematic Diagram: Organizational Structure.
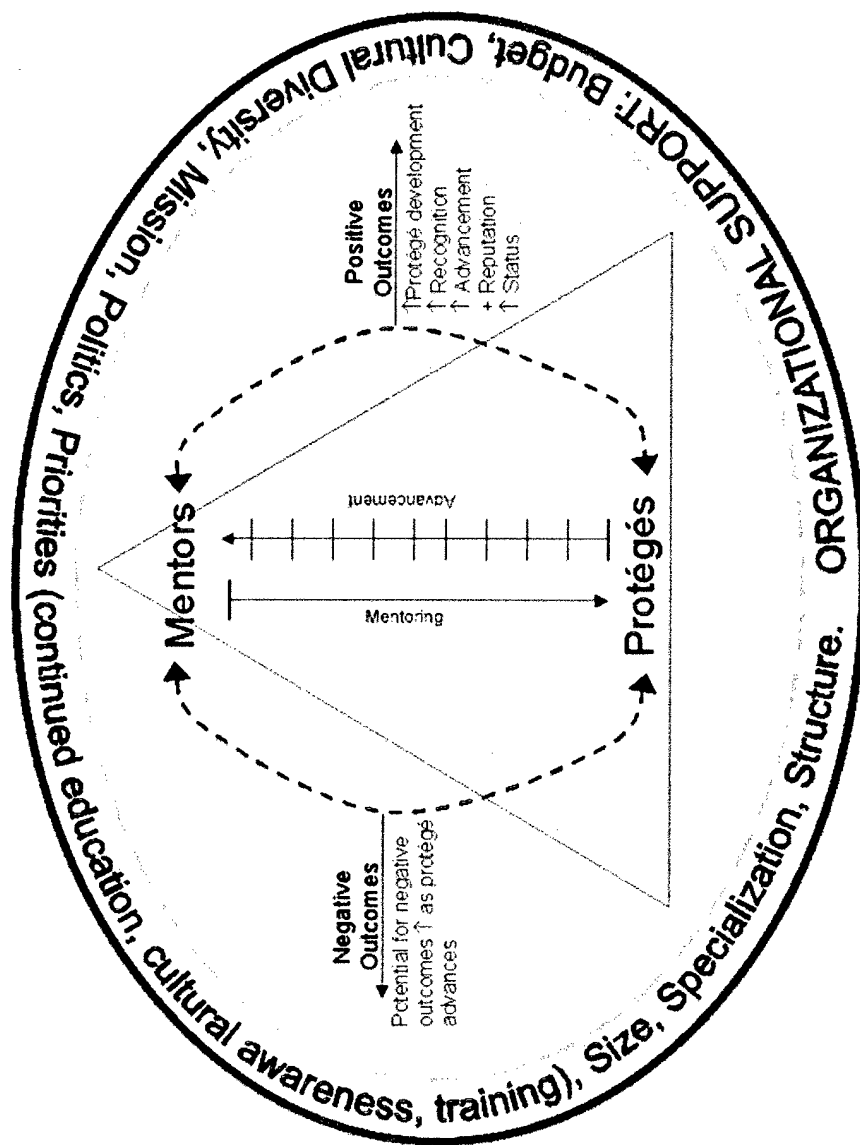
Figure 5. Contemporary Mentoring Schematic Diagram: Traditional Mentoring.

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For traditional mentoring definitions, the representation (see Figure 5) is now complete. The mentor is someone with more rank, experience, or increased sphere of influence that invests time and energy into nurturing and developing an individual with less rank, experience, or sphere of influence. The primary reason for forming these relationships is to develop the protégé, but these relationships are mutually beneficial. Thus, as the protégé advances toward the apex, the mentor's status within the organization is elevated.

Based upon findings from this study, traditional flow does not reflect perceived mentoring support reported by Air Force nurses. Traditional mentoring does not meet the needs of Air Force nurses because it is in potential conflict with Air Force Instruction (AFI) 36-2909, (Professional and Unprofessional Relationships; Department of the Air Force, 1999). Participating in a traditional mentoring relationship could blur boundaries of professional relationships for the mentor-protégé pair. According to AFI 36-2909 (Department of the Air Force, 1999, p. 3), relationships that begin professionally "may become unprofessional when facts or circumstances change". The *appearance* of favoritism is enough to constitute an unprofessional relationship (Department of the Air Force, 1999), and favoritism is associated with traditional mentoring relationships (Vance, 1982).
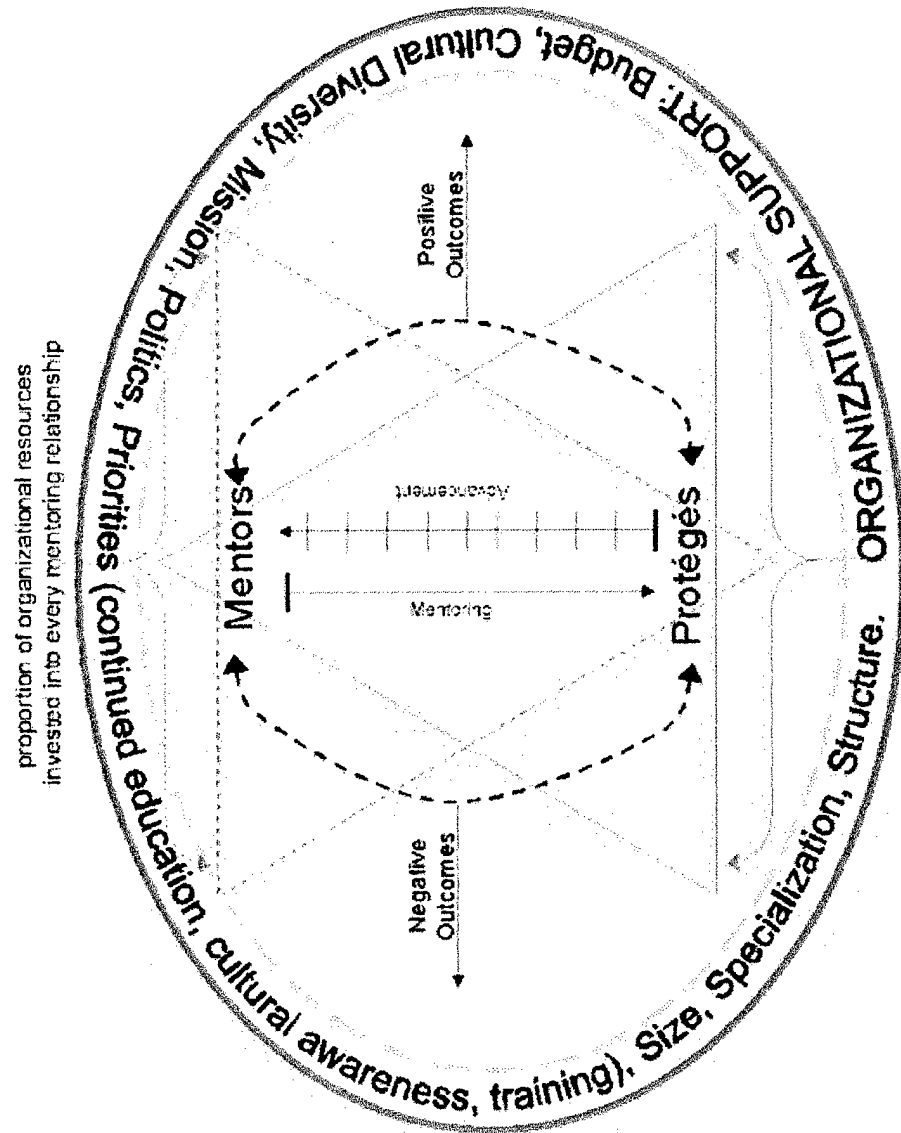
Figure 6. Schematic Diagram of Traditional Mentoring: Organizational Perspective.

Additionally, one needs only look at traditional mentoring from the perspective of organizational costs to understand why utilizing traditional mentoring as the only form of mentoring support is not an economical or practical strategy for organizations. As illustrated and presented in Figure 6, a substantial portion of organizational resources are required for every mentoring relationship. Given that there are significantly more individuals in the base compared to the apex, this type of mentoring would also mean only a select few would receive the benefits of mentoring.

Transitional Mentoring Flow

The third phase of Contemporary Mentoring, transitional flow, is presented in Figure 7. A jagged line with an arrow pointed toward the base of the triangle represents the incompatibility of traditional mentoring and Air Force nursing, and also the difficulties inherent to forming intense, long-lasting mentoring relationships. Individuals who cannot or do not form traditional mentoring relationships are left with two choices: accepting lack of mentoring support in work environments, or finding mentoring alternatives. It is the opinion of this investigator that the quantity of mentoring literature and numerous proposed definitions are directly related to the search for alternative forms of mentoring.
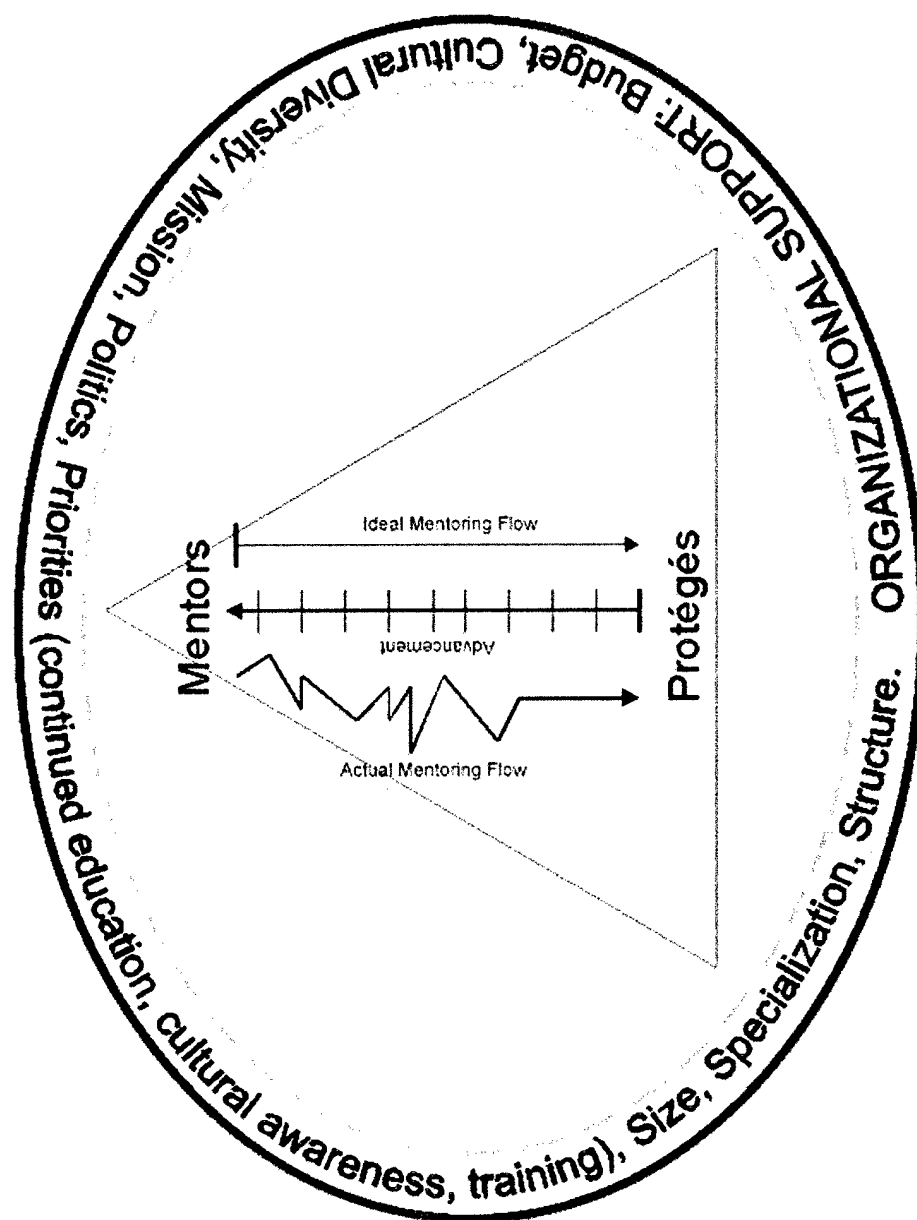
Figure 7. Contemporary Mentoring Schematic Diagram: Transitional Mentoring.

Collegial Mentoring Flow

The fourth phase of Contemporary Mentoring, collegial flow, is presented in Figure 8. In this phase, members of the organization are divided into three units: (1) senior leaders/mentors, (2) the team/collegial mentors and mentees, and (3) novices/protégés. The triangle becomes a modified pyramid reflecting the distribution of organizational members. A corridor, aligned horizontally to traditional mentoring flow, represents collegial mentoring support. This corridor includes the majority of Air Force nurses and it embraces the team concept with reciprocal, multidimensional peer mentoring support. Collegial social and task support behaviors originate in the corridor. The sum of mentoring support within the corridor is equal to that of a traditional mentoring relationship. One advantage of receiving mentoring support within the corridor, as opposed to a single mentoring relationship, is team unity. When someone from the corridor is elevated into the apex, they remain part of the team and have the support of the team. Individuals who bypass the corridor are not team players, and thus may not have the respect and support of the corridor when they make it to the apex. It should be noted that alignment within the corridor does not mean that mentoring support is never given or received from nurses all ready in the apex. This model simply acknowledges the existence of peer mentoring and accepts the role of peers in positive mentoring outcomes.

The modified pyramid is shaded in gradients and patterned on the theory of osmosis, which states particles will travel from high concentrations to low concentrations in an effort to equalize (Spraycar, 1995). One-way semi-permeable divisions serve as entry points for members as they advance in the organization. The apex of the pyramid is the lightest shade, because few people reach the apex; the triangle gradually darkens as it nears the lower border of the corridor, because most people work in the corridor. The base is speckled, representing novices who are not part of the team.

The lower border of the corridor is a one-way semi-permeable division that allows novices to move into the corridor. Most will enter the corridor and become team members. A small number will bypass the corridor by forming a long-lasting traditional mentoring relationship with someone in the apex. The remaining people will fail to acclimate and leave, or be dismissed from the organization.

Unlike traditional mentoring relationships, the organizational resources required for collegial mentoring are equitably dispersed within the corridor. Senior leaders that mentor individuals within the corridor do not expend as many organizational resources because they are not the sole source of mentoring support. This reduced organizational expense makes contemporary mentoring an economically sound alternative to traditional mentoring.
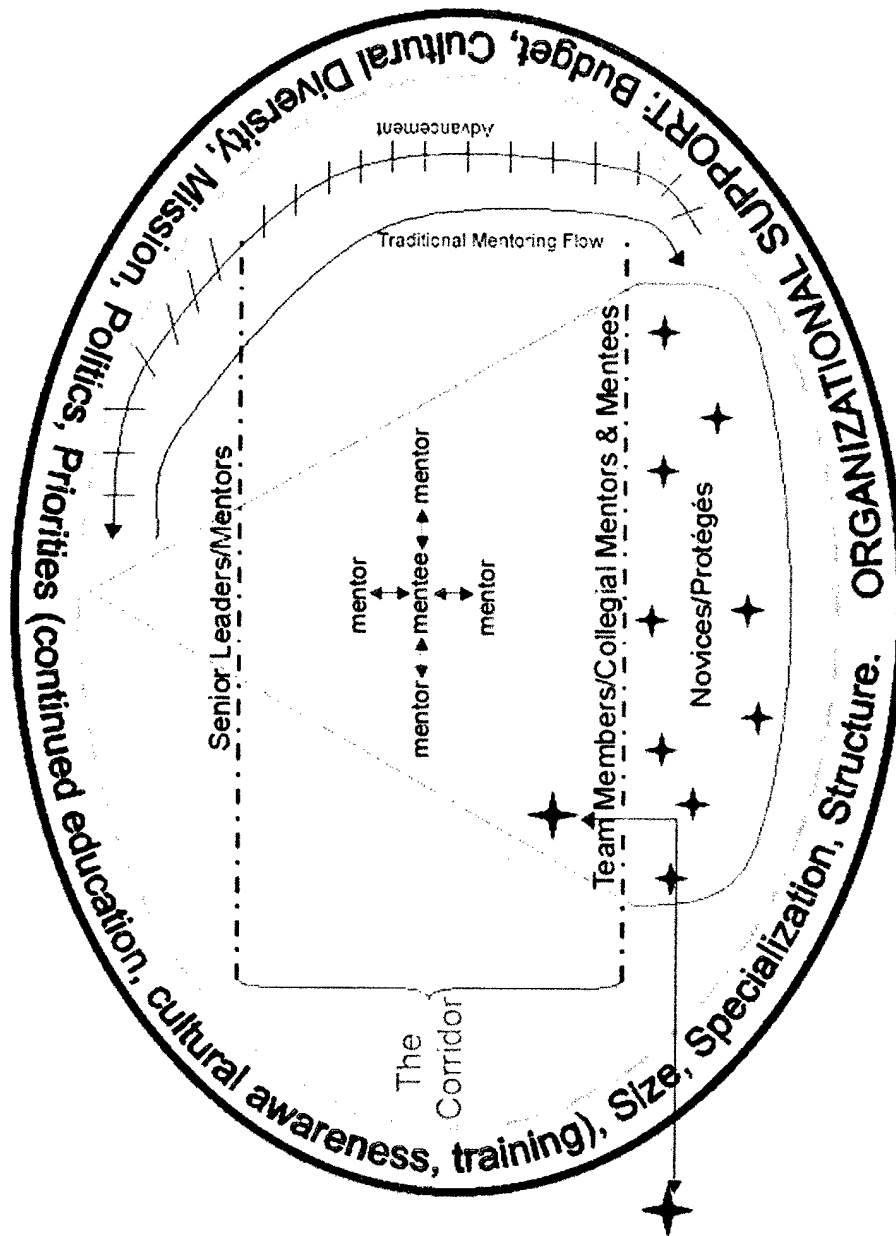
Figure 8. Contemporary Mentoring Schematic Diagram: Collegial Mentoring.

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Contemporary Mentoring for Generation X Employees

Members of Generation X enter long-term relationships hesitantly (Kupperschmidt, 1998), making the corridor an appealing alternative because there are no initial expectations of commitment as with traditional mentoring relationships. Generation X employees are described as independent and resourceful (Kupperschmidt, 1998; Tulgan, 1999), which means these employees will seek out mentoring support from colleagues and provide mentoring support to others within the corridor. Generation X employees form loyalties to individuals (Tulgan, 1999), which means the benefits of collegial mentoring are not limited to members of one organization. Collegial mentoring support can – and does – exist among professional colleagues from different organizations.

Implications

More than ever, nursing needs to mentor its own. Results of this study support peer mentoring as an alternative to traditional relationships. Links in the literature are between mentoring and success (Adams, 1997; Brey & Ogletree, 1999; Rawl & Peterson, 1992; US Army Center for Health Promotion and Preventative Medicine, 1999); leadership and professionalism (Adams, 1997; Belcher & Sibbald, 1998; Cooper, 1990; Prestholdt, 1990; Vance, 2001; Yoder, 1995), personal and professional growth (Brey & Ogletree, 1999; Di Vito-Thomas, 1996; Glass & Walter, 2000; Haring-Hidore, 1987; Hayes, 1998; Holloran, 1993; Hunt & Michael,

1983; Saltzman & Jackson, 2000; White, 1988; Whitely et al., 1991; Vance, 2001),

job satisfaction and retention (Carey & Campbell, 1994; Ecklund, 1998; Yoder,

1995); education (Heinrich & Scherr, 1994; Reid, 1994; Sachdeva, 1996); and self-

confidence, efficacy, and esteem (Di Vito-Thomas, 1996; Vance, 2001). Findings

from this study confirm the link between perceived mentoring and education.

Participants with higher levels of education perceived more mentoring in this study.

Considering positive effects of mentoring on leadership and professionalism,

personal and professional growth, job satisfaction and retention, and self-confidence,

efficacy, and esteem, it seems logical for an organization to encourage increased

educational pursuits.

An excellent educational benefit package currently exists in the Air Force

Nurse Corps. Subtle changes in marketing this package could benefit present and

future Air Force nurses individually and collectively. Educational benefits are a

powerful incentive for joining the Air Force, a collective benefit for the entire

AFNC. Once completed, education is associated with increased perception of

mentoring support, a benefit for both that particular individual and the AFNC.

Effective mentoring increases retention, intent to stay, and job satisfaction, which are

both individual and collective benefits. But perhaps the most important reason to

capitalize on educational opportunity is the collective benefit mentoring provides as

an indicator of leadership and professional development. Encouraging more Air

Force nurses to pursue advanced degrees could be accomplished in at least three ways: (1) expanding opportunities for Air Force-sponsored graduate education; (2) providing scheduling flexibility for nurses pursuing education during off-duty time; and (3) rewarding educational pursuits with recognition, increased responsibility, financial bonus, and promotion.

Non-military health care organizations could obtain similar benefits by allocating funds for nursing education. Coordinating organizational support and collegial mentoring support could foster collegial relationships and support networks which would, in turn, preserve the number of practicing nurses while attracting others into (or back into) the nursing profession. Although not included in this study, it is possible that associate degree nurses' perceptions of mentoring would increase with higher educational levels.

Job satisfaction, self-confidence, and retention are problems reaching epidemic levels for some health care organizations. An organization that values mentoring, and supports educational pursuits could find itself moving past these problems much faster than organizations that fail to recognize the positive impact of mentoring.

Developing an organizational culture conducive to mentoring involves several steps. First, leaders need to identify the purpose and goals of mentoring within their organization (Darling, 1985a; Janas, 1996; Saltzman & Jackson, 2000).

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The second step is to formulate a definition of mentoring consistent with the identified purpose and goals from step 1 (Abbot, 2000; US Army Center for Health Promotion & Preventative Medicine, 1999). The third step is to communicate the organization's position regarding mentoring to personnel within the organization (Brey & Ogletree, 1999; Darling, 1985a; Saltzman & Jackson, 2000). The fourth, and final, step is to seek feedback from personnel and be prepared to revise all or part of the organizational support role for mentoring.

If the Air Force Mentoring Program is intended for professional development, there are several minor revisions that would make the program more compatible with its organizational structure and culture. First, mentoring is currently described in traditional terms, making it outdated and often unobtainable. This study's findings support the creation of a new definition of mentoring in the Air Force that acknowledges the prevalence of reported collegial support. Second, in selecting supervisors as primary mentors, Air Force leaders have created the potential for role conflict among supervisors, which could limit one's effectiveness in both supervisor and mentor roles. Finally, the concept of mutuality should be revisited. Mutuality is an essential component of effective mentoring. Without this key ingredient, positive mentoring outcomes will be rare. Effective mentoring requires mutual purpose, goals, and respect. If this investigator's interpretation is correct, the purpose of the Air Force program is "to enhance the overall

professionalism of the Air Force" (Department of the Air Force, 2000b, p.1). This purpose is noble, and mentoring is certainly the best way to achieve the stated purpose, but the interventions fail to address mutuality. The Air Force Mentoring Program may never achieve its potential success if mentoring received by Air Force members is mandated and the manner in which it is delivered, predetermined. It is commendable that the Air Force has recognized mentoring as a valuable tool. Individuals with the interest, motivation, and subject expertise should be given opportunity to advise Air Force leaders about improving implementation and marketing of a more contemporary mentoring program.

Future Research

There is much more to learn about mentoring support. A revised instrument, specific to military nursing would be helpful in measuring types of mentoring support among Air Force nurses. Results of this study compared with a similar study using a military nursing equivalent mentoring support scale could provide an outcomes measure for use with the Air Force Mentoring Program. Comparisons of perceived mentoring support among military and non-military nurses could corroborate claims that health care organizations exist within a different mentoring framework compared to that of business organizations. Finally, mentoring research has relied heavily on business settings, which are very different from health care settings in terms of individual versus team effort, and what defines success. The

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Schematic Diagram for Contemporary Mentoring may well become a framework in which health care organizations can create education and training programs. Additionally, the similarities between collegial mentoring support and adult learning principles (Knowles, Holton, & Swanson, 1996; Sachdeva, 1996) may have application in educational settings as well.

Summary

Traditional mentoring relationships, by definition, are not compatible with Air Force culture and organizational structure. However, mentoring support from multiple sources provides equitable alternatives. Reported in the survey of reported perceived types of mentoring support received by Air Force nurses, is that collegial task support was experienced most often, followed by collegial social support, career mentoring, and coaching. This study's results indicate that higher levels of education are associated with more perceived mentoring, and serving at four or more duty assignments does not limit opportunities for mentoring support. A result of this research is a schematic diagram of Contemporary Mentoring, incorporating personal experience, literature review, study findings, and interpersonal peer discussions. Further research to test Contemporary Mentoring as a model applicable to health care organizations is needed. Implications for Air Force and non-military health care organizations include increased emphasis on educational opportunity for members and cultivating a culture conducive to mentoring. The Air Force is making positive

steps toward such a culture by implementing a mentoring a program, and with

several minor revisions, the program would be more compatible with types of

mentoring support reported by Air Force nurses.

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APPENDICES

APPENDIX A

The Mentoring Survey

DEMOGRAPHIC DATA SHEET

The following information will be used to analyze responses to the Mentoring and Communication Support Scale. All information that you provide will remain confidential.

Have you served as an active duty Air Force nurse for at least 12 months?
YES   NO

Gender: (Circle one)   Male   Female

Ethnicity: (Mark one)

_____ American Indian/Alaskan   _____ Asian/Pacific Islander

_____ Black (Non-Hispanic)   _____ Hispanic

_____ White (Non-Hispanic)   _____ Other

Age: (Mark one)

_____ 21 – 26   _____ 27 – 32   _____ 33 – 38   _____ 39 – 44   _____ 45+

Current Rank: (Mark one)

_____ 2d Lt/1st Lt   _____ Capt   _____ Maj   _____ Lt Col/Col

Highest Educational Level: (Mark one)

_____ BS/BSN   _____ MS/MSN   _____ PhD/EdD

Number of Geographic Duty Locations (excluding TDYs): (Mark one)

_____ 0 – 3   _____ 4 – 6   _____ 7 – 10   _____ 11+

MENTORING AND COMMUNICATION SUPPORT SCALE

We would like to focus on some specific activities in which you may have participated. For the following situations, please indicate WHETHER OR NOT you agree that you have engaged in the following activities within the last 12 months. Circle the number which best describes your feelings.

The response format for all items is as follows:
5 = Strongly Agree
4 = Agree
3 = Neither
2 = Disagree
1 = Strongly Disagree

Career Mentoring
1. Someone of higher rank placed me in important assignments/positions
2. Someone of higher rank frequently devotes extra time/consideration to me
3. Someone of higher rank has shown parental-like interest in me/my career
4. I receive special attention from someone in a higher position
Coaching
5. I have had an associate teach me the informal rules of my organization
6. I have had an associate teach me strategies for influencing group/departmental meetings
7. I have been coached about office politics
Collegial Social Support
8. My associates and I are friends as well as coworkers
9. My associates and I frequentlylisten to each other's personal problems
10. My associates and I share confidences with each other
11. My associates and I frequently exchange constructive criticism
Collegial Task Support
12. My associates and I assist each other in accomplishing assigned tasks
13. My associates and I frequently exchange compliments/positive evaluations
14. I work jointly on major projects or cases with my associates
15. I frequently exchange ideas with my associates

APPENDIX B

Air Force Access Letter

XX Month XXXX

MEMORANDUM FOR HQ AFPC/DPSAS
                         550 C Street West Suite 35
                         Randolph AFB, TX 78150-4737

FROM: Captain Deedra L. Zabokrtsky
           XXX NW XXX
           Edmond, OK XXXXX-XXXX

SUBJECT: Request for Survey Approval of Air Force Personnel
              (ACTION MEMORANDUM)

1. I am an Air Force Institute of Technology sponsored graduate student at the
   University of Oklahoma Health Sciences Center College of Nursing planning my
   thesis research. I wish to identify the nature and prevalence of mentoring
   relationships related to career development of nurses in the Air Force. This will
   necessitate a survey of active duty Air Force nurses. I am requesting survey
   approval to provide the data necessary to complete the thesis requirement of the
   program.

2. The information obtained about the specific effects of mentoring relationships
   may guide nurses interested in participating in this kind of relationship.
   Supplying the results to the Office of the AF SG provide new insight for nurse
   educators and program developers to use in evaluating the new Air Force
   mentoring program.

3. The research instrument consists of the attached one-time pencil and paper
   Mentoring Survey. This will be mailed to 500 active duty nurses meeting the
   research criteria and assigned to the six Air Force medical facilities that have
   granted sponsorship for data collection. The facilities include Andrews, Keesler,
   Scott, Travis, Wright-Patterson, and Lackland AFB. For this research, inclusion
   criteria are active duty Air Force nurses who have served at least one year as an
   active duty Nurse Corps officer. After receiving Air Force Survey approval, the
   participating facilities will provide the researcher with the name and address of
   each nurse meeting the above criteria.

4. To ensure participant anonymity no personal identifiers will be available on any
   survey. Participants returning the completed surveys directly to the investigator

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in an addressed postage paid envelope will further protect anonymity. Data analysis will utilize descriptive and inferential statistics and results will only be reported as group data.

5. The study received approval from the thesis committee chairperson, Dr. Anita All, and the University of Oklahoma Health Sciences Center Institutional Review Board. Informed consent will be obtained from each participant and there are no risks to him or her.

6. I am seeking survey approval to initiate data collection starting Nov 2000. If you have any questions please contact me by telephone (XXX) XXX-XXXX or by email at zabod@aol.com, or my major professor, Dr. ____ at (405) XXX-XXXX.

7. Thank you for your prompt assistance. I look forward to identifying information Air Force nurse educators will use to develop future training programs.

DEEDRA L. ZABOKRTSKY, Capt, USAF,
Student, Air Force Institute of Technology
University of Oklahoma

Attachment:
1. Research Instrument with Cover Letter

APPENDIX C

Institutional Review Board Letter of Approval

APPENDIX D

Cover Letter

Dear fellow Air Force Nurse

I am an Air Force Institute of Technology (AFIT) sponsored graduate student at the University of Oklahoma Health Sciences Center conducting my thesis research. I wish to identify the types of mentoring behaviors experienced by Air Force nurses and the perceptions of mentoring received in the last 12 months. The information obtained may contribute to the successful design of a nurse-mentoring program.

You are being contacted because you are an active duty nurse assigned to one of four sites sponsoring data collection. You are eligible to participate if you have been commissioned as an Air Force Nurse Corps Officer and have served on active duty for at least 12 months.

Participation will involve completing the Demographic Data Sheet, the Mentoring and Communication Support Scale and returning the survey to _____ in the addressed envelope. The survey takes 10 - 15 minutes to complete. Please mail the completed survey to _____ by _____.

Your participation is VOLUNTARY and your answers will be anonymous. No personal identifiers will be available on any survey. Your supervisors will not know if or how you responded. Group data from your facility will not be shared with your facility and will not affect current position or opportunity for promotion. A summary of group data for all participating facilities combined will be provided to the USAF Office of the Surgeon General.

There are no anticipated consequences or risks to you if you decide not to participate and there is no compensation awarded for participation in the study. I welcome questions and or comments and can be contacted by telephone (405) XXX-XXXX or by email at _____ or you may contact my thesis committee chair, Dr. X XXXXX (405) 271-XXXX. If you have any questions about your rights as a research subject, you may contact the University of Oklahoma Health Sciences Center Office of Research Administration at (405) 271-2090.

Returning the completed survey to _____ will constitute your **CONSENT TO PARTICIPATE** in this study. I value your input and appreciate your participation. Thank you in advance for your assistance in this study.

Very Respectfully

DEEDRA L. ZABOKRTSKY, Capt, USAF, NC

Attachment:
1. Mentoring and Communication Support Scale
2. Demographic Data Sheet

APPENDIX E

Descriptive Presentation of Data for Survey Sites

Table 3

Response Frequencies: Total Sample (N = 467)

Mentoring Support Behavior Statements	5-point Likert Scale					
	1	2	3	4	5	Total
1. Someone of higher rank placed me in important assignments/positions	32	48	70	147	170	467
2. Someone of higher rank frequently devotes extra time/consideration to me	71	84	122	118	72	467
3. Someone of higher rank has shown parental-like interest in me/my career	80	102	94	117	74	467
4. I receive special attention from someone in a higher position	95	113	109	84	66	467
5. I have had an associate teach me the informal rules of my organization	48	89	108	158	64	467
6. I have had an associate teach me strategies for influencing group/departmental meetings	95	149	109	81	33	467
7. I have been coached about office politics	99	121	117	92	38	467
8. My associates and I are friends as well as coworkers	21	49	126	206	65	467
9. My associates and I frequently listen to each other's personal problems	21	54	120	190	82	467
10. My associates and I share confidences with each other	23	71	130	178	65	467
11. My associates and I frequently exchange constructive criticism	10	58	139	201	59	467
12. My associates and I assist each other in accomplishing assigned tasks	10	17	52	242	146	467
13. My associates and I frequently exchange compliments/positive evaluations	9	34	87	215	122	467
14. I work jointly on major projects or cases with my associates	22	66	116	174	89	467
15. I frequently exchange ideas with my associates	4	28	74	224	137	467

Note. Scores based on 5-point Likert-type scales (1 = strongly disagree, 5 = strongly agree).

Table 4

<u>Response Frequencies: Survey Site One</u>

Mentoring Support Behavior Statements	5-point Likert Scale					
	1	*2*	*3*	*4*	*5*	**Total**
1. Someone of higher rank placed me in important assignments/positions	*10*	*13*	*13*	*28*	*20*	**84**
2. Someone of higher rank frequently devotes extra time/consideration to me	*16*	*13*	*23*	*24*	*8*	**84**
3. Someone of higher rank has shown parental-like interest in me/my career	*14*	*20*	*19*	*19*	*12*	**84**
4. I receive special attention from someone in a higher position	*18*	*19*	*23*	*16*	*8*	**84**
5. I have had an associate teach me the informal rules of my organization	*15*	*13*	*16*	*33*	*7*	**84**
6. I have had an associate teach me strategies for influencing group/departmental meetings	*20*	*27*	*20*	*12*	*5*	**84**
7. I have been coached about office politics	*26*	*15*	*21*	*16*	*6*	**84**
8. My associates and I are friends as well as coworkers	*5*	*12*	*29*	*31*	*7*	**84**
9. My associates and I frequently listen to each other's personal problems	*5*	*11*	*23*	*33*	*12*	**84**
10. My associates and I share confidences with each other	*3*	*17*	*25*	*29*	*10*	**84**
11. My associates and I frequently exchange constructive criticism	*2*	*14*	*27*	*31*	*10*	**84**
12. My associates and I assist each other in accomplishing assigned tasks	*4*	*5*	*15*	*39*	*21*	**84**
13. My associates and I frequently exchange compliments/positive evaluations	*1*	*8*	*18*	*34*	*23*	**84**
14. I work jointly on major projects or cases with my associates	*5*	*12*	*27*	*24*	*16*	**84**
15. I frequently exchange ideas with my associates	*1*	*3*	*19*	*36*	*25*	**84**

Note. Scores based on 5-point Likert-type scales (1 = strongly disagree, 5 = strongly agree).

Table 5

Response Frequencies: Survey Site Two

| | 5-point Likert Scale | | | | | |
Mentoring Support Behavior Statements	1	2	3	4	5	Total
1. Someone of higher rank placed me in important assignments/positions	2	8	13	32	43	98
2. Someone of higher rank frequently devotes extra time/consideration to me	10	16	28	30	14	98
3. Someone of higher rank has shown parental-like interest in me/my career	12	18	26	29	13	98
4. I receive special attention from someone in a higher position	20	21	25	17	15	98
5. I have had an associate teach me the informal rules of my organization	10	16	22	30	20	98
6. I have had an associate teach me strategies for influencing group/departmental meetings	17	32	17	24	8	98
7. I have been coached about office politics	22	20	28	20	8	98
8. My associates and I are friends as well as coworkers	5	11	26	45	11	98
9. My associates and I frequently listen to each other's personal problems	7	11	23	41	16	98
10. My associates and I share confidences with each other	11	11	26	35	15	98
11. My associates and I frequently exchange constructive criticism	4	11	19	48	16	98
12. My associates and I assist each other in accomplishing assigned tasks	2	4	10	53	29	98
13. My associates and I frequently exchange compliments/positive evaluations	4	8	13	44	29	98
14. I work jointly on major projects or cases with my associates	5	15	21	38	19	98
15. I frequently exchange ideas with my associates	1	8	14	42	33	98

Note. Scores based on 5-point Likert-type scales (1 = strongly disagree, 5 = strongly agree).

Table 6

Response Frequencies: Survey Site Three

Mentoring Support Behavior Statements	5-point Likert Scale					
	1	2	3	4	5	Total
1. Someone of higher rank placed me in important assignments/positions	16	19	29	60	75	199
2. Someone of higher rank frequently devotes extra time/consideration to me	31	40	41	49	38	199
3. Someone of higher rank has shown parental-like interest in me/my career	36	47	31	52	33	199
4. I receive special attention from someone in a higher position	36	52	45	36	30	199
5. I have had an associate teach me the informal rules of my organization	11	41	51	32	14	199
6. I have had an associate teach me strategies for influencing group/departmental meetings	39	63	51	32	14	199
7. I have been coached about office politics	32	61	48	42	16	199
8. My associates and I are friends as well as coworkers	5	17	48	96	33	199
9. My associates and I frequently listen to each other's personal problems	6	24	50	80	39	199
10. My associates and I share confidences with each other	5	28	58	81	27	199
11. My associates and I frequently exchange constructive criticism	1	24	62	89	23	199
12. My associates and I assist each other in accomplishing assigned tasks	3	6	12	104	74	199
13. My associates and I frequently exchange compliments/positive evaluations	2	13	39	92	53	199
14. I work jointly on major projects or cases with my associates	5	29	48	80	37	199
15. I frequently exchange ideas with my associates	2	6	30	104	57	199

Note. Scores based on 5-point Likert-type scales (1 = strongly disagree, 5 = strongly agree).

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Table 7

Response Frequencies: Survey Site Four

Mentoring Support Behavior Statements	5-point Likert Scale					
	1	2	3	4	5	Total
1. Someone of higher rank placed me in important assignments/positions	4	8	15	27	32	86
2. Someone of higher rank frequently devotes extra time/consideration to me	14	15	30	15	12	86
3. Someone of higher rank has shown parental-like interest in me/my career	18	17	118	17	16	86
4. I receive special attention from someone in a higher position	21	21	16	15	13	86
5. I have had an associate teach me the informal rules of my organization	12	19	19	24	12	86
6. I have had an associate teach me strategies for influencing group/departmental meetings	19	27	21	13	6	86
7. I have been coached about office politics	19	25	20	14	8	86
8. My associates and I are friends as well as coworkers	6	9	23	34	14	86
9. My associates and I frequently listen to each other's personal problems	3	8	24	36	15	86
10. My associates and I share confidences with each other	4	15	21	33	13	86
11. My associates and I frequently exchange constructive criticism	3	9	31	33	10	86
12. My associates and I assist each other in accomplishing assigned tasks	1	2	15	46	22	86
13. My associates and I frequently exchange compliments/positive evaluations	2	5	17	45	17	86
14. I work jointly on major projects or cases with my associates	7	10	20	32	17	86
15. I frequently exchange ideas with my associates	0	11	11	42	22	86

Note. Scores based on 5-point Likert-type scales (1 = strongly disagree, 5 = strongly agree).

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Table 8

Means and standard deviations by type of mentoring support.

Demographic Variable		n	Career Mentoring		Coaching		Collegial Social Support		Collegial Task Support	
			Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.
Gender	Male	118	12.55	4.2	8.35	3.1	13.8	3.07	15.26	3.08
	Female	349	12.78	4.65	8.53	3.25	14.07	3.62	15.5	3.21
Ethnicity	Am.Ind./Alaskan	3	12	6.56	10	2	14.33	3.79	14.67	5.77
	As./Pac.Isl.	20	13	3.7	8.55	3.24	13.8	3.53	15.7	2.89
	Black*	54	12.04	4.39	7.94	3.46	12.74	3.69	14.83	3.1
	Hispanic	30	13.27	4.74	8.23	3.1	15.13	3.27	15.8	2.47
	White*	349	12.7	4.54	8.5	3.15	14.09	3.43	15.49	3.26
Age	21 - 26	29	12.14	3.13	8.55	2.82	15.14	3.01	15.1	2.01
	27 - 32	103	12.24	4.6	8.37	2.84	14.5	3.35	15.05	3.17
	33 - 38	121	12.24	4.22	8.31	3.16	14.06	3.17	15.09	3.26
	39 - 44	129	13.29	4.87	8.95	3.58	13.51	3.81	15.71	3.37
	45+	85	13.33	4.67	8.13	3.23	13.68	3.62	16.14	2.98
Rank	2d/1st Lt	79	12	3.88	8.32	2.84	14.09	3.51	14.9	2.92
	Captain	243	12.12	4.57	8.31	3.12	13.89	3.46	15.17	3.13
	Major	98	13.85	4.48	8.83	3.46	14.04	3.64	15.93	3.34
	Lt Col/Colonel	47	14.72	4.58	8.94	3.7	14.36	3.3	16.77	3.09

Note. * Non-Hispanic